Summer/Fall - 1989

BMUG

Volume V, Number II

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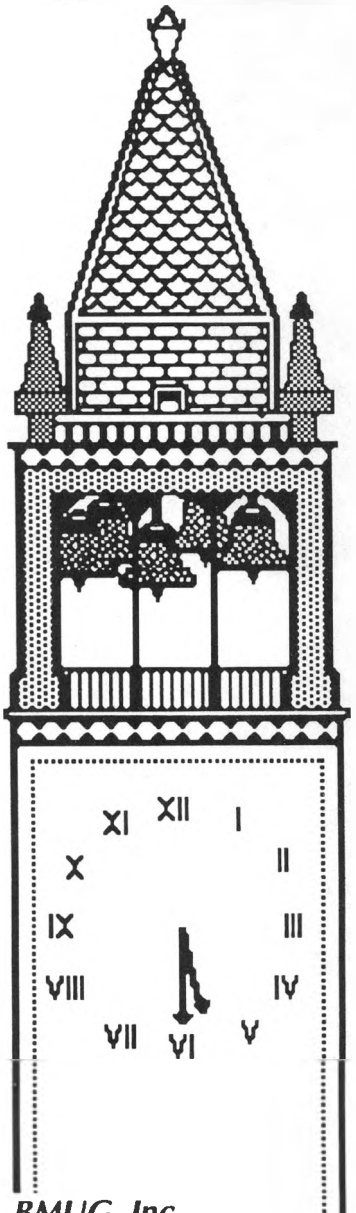

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Newsletter

Volume V • Number II

Summer / Fall, 1989

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If you have any questions, please leave mail to BMUG, or call 415-549-BMUG.

Thanks, and enjoy the Newsletter!

This issue of *the BMUG Newsletter* is dedicated to

Greg Dow

in appreciation of his completing the "Longest Running VaporWare Product" in the industry — The *BMUG* ShareWare Directory

(aka: The *BMUG* Disk Catalog)

"We're in the business of giving away information"

— BMUG

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(Note that this list is current as of January 28, 1990. You shouldn't check with the Office of Export Administration for any subsequent updates or revisions prior to that date, as you'll only confuse them)

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Singapore
Outer Mongolia

Country Group P
Canada
Mexico
Sweden

Country Group R
Great Britain
France
Antarctica

County Group T
Alameda
Contra Costa
Orange
Middlesex
Suffolk

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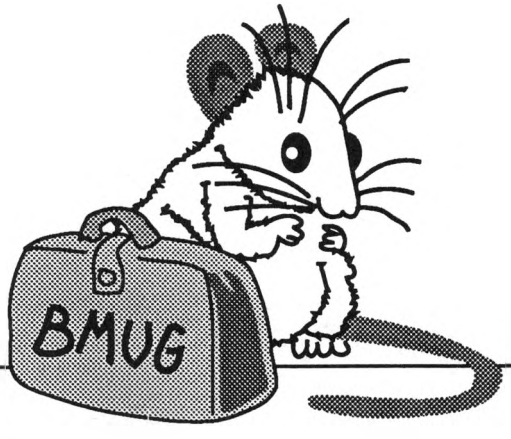


BMUG

Introduction

by Alex Lau

Welcome to BMUG! If this is your first trip through our book-length newsletter, this is where to start. If you're a relative old-timer, read on... a lot has changed since you last flipped through these pages!

What's old

Actually, quite a few things haven't changed on the BMUG homestead. We're still a non-profit educational corporation (501(c)3, for those who want to know), so your donations are still tax deductible (hint, hint). We're still the largest, independent Macintosh user group in the world. We still operate the HelpLine and the BMUG BBS, and right now you're holding the Newsletter, which we still put out twice a year. Last but definitely not least, our credo continues to be:

"We're in the business of giving away information."

What's new

Several projects have come to (or are nearing) fruition since the last Newsletter rolled off the presses. There's the BMUG Forum on the CONNECT Information Service, which went public in late June. The *Disk Catalog* just became available, as did version 1.2 of the BMUG *PD-ROM*™. The *Type Book*, announced in the last Newsletter, should be at the printer as you read this, for release September 20th, 1989 at the Seybold Desktop Publishing Conference in San Francisco.

The BMUG Forum is a new way to reach BMUG through your modem. If you live too far away from Berkeley, California to call us regularly, then this is for you. BMUG has a great deal with the CONNECT Information Service to offer our technical support, *Newsletter* articles and a substantial portion of our publicly distributable software library to our members at a discount from the regular cost of the MacNET software. A disk with a demonstration version of the U.S. version of the MacNET software and documentation is yours for only $2.00 (half off the regular price of a disk.), and you'll get 30 minutes of free time in which to browse through the CONNECT service. If you like it, CONNECT will bill your credit card for the cost of upgrading your demonstration version to a fully-featured version, **on-line!** No need to wait for an upgrade through the mail. CONNECT has access numbers in every state, as well as in Europe and Asia, so with our new Forum, we'll be more accessible to all of our members worldwide.

The *Disk Catalog* is a book that showcases each and every file in our 250+ disk general (non-HyperCard) library. It even includes a printout of each font in our Font disks.

Version 1.2 of BMUG's PD-ROM should be in distribution as you read this. Sales of earlier versions made the PD-ROM the best selling CD-ROM disc in the Macintosh market, according to Apple. The new version will contain over 500 megabytes (almost twice that of the older versions) of public domain and shareware files, as well as a HyperCard interface that can find and open the file you want within seconds. An upgrade for older versions of the PD-ROM will be available at a special price, so be sure to send in your registration card if you own one already.

The *Type Book* is a compilation of virtually all available *PostScript* typefaces in a standard format. It includes fonts from Adobe, Bitstream, Compugraphic, Linotype, Casady & Greene, and other major vendors. Shareware and public domain typefaces are also included. The *Type Book* looks to be a big hit with everyone using *PostScript* fonts.

New Special Interest Groups (SIGs)

To keep up with the NeXT guy, and to stay true to our charter, BMUG now offers a UNIX Workstations SIG. This SIG will focus on all graphical interfaces to UNIX, including Apple's version of UNIX (A/UX); Sun workstations and their "Open Look" interface; and the NeXT Step interface from NeXT.

And, in this age of desktop presentations, slides and desktop video, BMUG is sponsor ing a Multimedia SIG. Most SIGs meet at the BMUG office every other week; call 415-849-9114 for info.

BMUG turns five years old this month

Five years ago this month, in August of 1984, Reese Jones and a few other students at the University of California at Berkeley formed the Berkeley Macintosh User Group. The "office" was a room in Reese's home, and the Newsletter was done before desktop publishing.

From this humble beginning, BMUG has grown to become an international, non-profit educational corporation, with nearly 10,000 members in over 50 countries worldwide. The office is now open to the public every working day, and the Newsletter is done entirely by computer. How's that for progress?

We're planning a Fifth Anniversary party for this September in Berkeley, although we may combine it with the BMUG **Mactoberfest** in October or November. Watch for it!

*For more information on BMUG's plans for the future, see the "Special Singapore Section" article by our co-founder **Raines Cohen**, at the back of the book.*

Any volunteers?

Volunteers are the heart of any non-profit organization, and BMUG is no exception. Volunteers staff the HelpLine every working day, keep the BBS up and running, write for and edit the Newsletter and Memo, label disks and Newsletter mailings, and are generally nice and helpful types.

If you have the free time, if you're in the area, and if you're willing (and why wouldn't you be?), come by the office and we'll set you on the path to enlightenment that is volunteering for BMUG. If you can't come by the office and you need a karmic boost, give us a call. There's always another Newsletter in the works, and if you have a modem, you can become a Newsletter contributor or editor from the comfort of your own home through the magic of the BMUG BBS.

If there's another project you're interested in, let us know. We're *always* looking for something new and exciting.

People get paid for this?

Yes, that's right, BMUG has a paid staff of nine people, both full- and part-time. In alphabetical order, they are: Jacqueline Anderson, Steve Costa, Harry Critchfield, Leno Garcia, Betsy Kennedy, Arthur Lau, Gerald Raddatz, Alisa Schulman and Randy Simon.

Most of the paid staff is concentrated on the business side of the office. These folks maintain the membership database, fill the orders for books, disks, Newsletters and PD-ROMs, and generally makes sure that BMUG will still be around for awhile. The technical/publications side of the office coordinates volunteer projects such as the HelpLine, the BBS and the BMUG Forum on the CONNECT Information Service, and puts together the various books, Memos and Newsletters that you have come to expect from BMUG.

More to come...

With your support, BMUG has been growing every year since its inception. In the coming year, we hope to bring to our membership more of the same old-fashioned loving care that we've always given. We are, of course, always looking out for new and better ways to serve our membership. In the first five years of our existence, we've done pretty well, and in the next five years, we hope to do better.

Alex Lau is Forum Manager for the BMUG area of CONNECT, and he helps with the BBS, around the office, and in setting up San Francisco meetings.

How the Newsletter Was Done

by Randy Simon
Publications Director

The planning of a newsletter generally comprises 90% of the work, (Sure doesn't seem that way when your doing the other 10%...) and this newsletter proved no exception.

The planning started at the close of the last newsletter. The previous PageMaker templates were adjusted to accommodate the design changes decided upon, the spell checking dictionaries were stored away, and a new 45-removable disk cartridge was formatted to store all the information needed to insure a speedy turnaround of this next project.

And then there was Singapore!

Several months later, we were informed that there was going to be an Expo in Singapore (MacWorld Expo Asia) and we decided that this would be a good opportunity to visit our members in Asia. (Hey! One excuse is as good as another!) This turned out to be a great decision, but more about that later...(see Raines' article on page 353)

We then needed someone to manage the booth, **Steve Costa** was the original choice — one) because he'd already been there and two) because he wanted to go. Unfortunately, since the information arrived at such a late date, he was unable to get his already heavily booked schedule rearranged. We had to find a replacement. In typical BMUG fashion, we looked around to see just who it was that didn't really want to go, someone who really didn't have the time to go, and was still slightly interested So we kept looking...and looking...until at last a solution was found: with less than a month to go, and with only a "small" project in the current future...we decided to send me!

I must admit, I was excited at this prospect, however, I did have the concern that we might have problems meeting our deadlines with the newsletter. "Nah!" said everyone, "we've got a lot of good volunteers just standing around waiting to help, there won't be *any* problems!" [This is a quote from an unknown source that goes by the initials F.L.W. (Famous Last Words)]

We decided to bite the bullet, and give our all for BMUG.

Organize Around The Clock

Now the race was on, could we, BMUG, last bastion of the great procrastinators, stalwart defenders of the motto: If you can get it done today, wait until next week, pull off (as we have so many times in the past) the completion of a project that should take 6 weeks — in 5 days?????

But of course, we use computers! Not only computers, but Macintosh!!!! [Why am I hearing loud strains from "The William Tell Overture" ringing in my head as I type this?????]

We gathered up all the articles that had been submitted, and started burning our eyes our reading them to determine which, of the favored few, would make it into the final publication. As usual, all the submitted articles were of such high quality, that we made the only decision possible to us: Use all of 'em!

Joe Caldarola, as usual, was quick to the challenge of updating the "Article Stack" he had created for the last newsletter to take into account the needed adjustments which had been found lacking in the previous stack. This in turn produced a stack that not only kept track of the articles submitted, but the address, phone numbers, comments, etc. of the Authors AND Editors. It allowed us to print out a listing of articles submitted so that we could send a thank you note to each of the authors who's article was used.

The "Stack" is truly amazing, it keeps track of everything in the process, giving one...at a moment's notice...an overview of

what's been done, and what needs to be finished. The stack is so simple, a child could use it...which, since we don't have any children working or volunteering in the office, probably explains why it didn't get used to it's fullest.

Well, with all the articles entered (mucho thanks to **Ellen Chait** and **Betsy Kennedy**), we got on with the process of getting things set for *real* production!

Who Was In Charge, After The Charge Card Expired

Betsy rose to the fore and started calling volunteers to help edit the current batch of articles. Each article had been ported into MS Word 4.0 (for consistency) and put into an envelope containing a style sheet (printed) and a disk. The disk contained the article and the NL fonts. The editors then simply picked an envelope with an article that interested them, took it home, checked for spelling, grammar, various asundry items (like...does this make sense to anyone else but me?) Ya know, the small stuff!

I, on the other hand, checked to make sure that everyone connected with this project knew what needed to be done, understood the process, knew the deadlines, and understood the process of what needed to be completed by the time I returned. [I now realize that I made one small miscalculation in all this! I was so busy telling everyone what needed to be done, I forgot to write it down!]

We did manage to get this thing together, through a lot of hard, dedicated work, particularly **Stef Bradshaw** and **Steve Lukrofka** - who, almost single-handedly put this thing together. Stef worked many a night into the wee hours of the morning, making sure each change was properly entered and all corrections that we could find were done. Steve, who laid-out the CAD/CAM section, went into overdrive to make sure it looked as good as possible.

Once the newsletter had been laid out, we then began the task of "cold" reading it, in an attempt to find anymore errors that may have been missed by the previous three checks. If we still missed any, our apologizes.

One thing we did realize,was that articles *must* be properly edited **before** you start flowing them into the PageMaker template. This was probably our worst problem. All the problems of years gone by (i.e., crashing applications, fonts not working, slow printing speed, etc.) did not appear this time...actually, we should simply count our blessings, but ya always gotta gripe about something!

The specifics of what we used were as follows:

Typefaces:

ITC Galliard (Body text) ..... Adobe, Inc.
Optima (Titles / Page Numbers) ..... Adobe, Inc.
Kabel Book (Sub-Heads) ..... Adobe, Inc.
IBMKlone (Programming & Bulletin Board Transcripts) ..... BMUG Fonts 10

The Software used in this issue included:

PageMaker, Vers. 3.02 ..... Aldus Corp.
FreeHand, Vers. 2.02 ..... Aldus Corp.
Word, Vers. 4.0 ..... Microsoft
HyperCard, Vers. 1.2.2 (the NL Stack) ..... Apple Computer, Inc.
Capture, Vers 2.0 ..... Mainstay

The Hardware used included:

Macintosh Plus, SE, II ..... Apple Computer, Inc.
LaserWriter II-NTX (Body) ..... Apple Computer, Inc.
Linotronic 300 Imagesetter (Cover) ..... Linotronic
Relax HD80 ..... Relax Technology
PLI Infinity 40 Turbo (4 or 'em) ..... Peripheral Land
DPI 45M Removable Cartridge Drive ..... DPI

Choice Products

*by Steve Costa (Version altered (and *some* spelling/grammar corrected) from Stephen Howard, Scott Beamer, John Heckendorn, Randy Simon, and David Morgenstern*

This article represents the collected opinions of experienced people who have come by the office. We only list items that are recommended by people who have actually used them, not just read about them or tried them out in a store. Quality ranges from "vastly superior" or "best available for any computer" all the way down to "the least objectionable of what's available." We've included some items that we feel should be part of a complete office. Order listed does not necessarily indicate order of preference. It should be noted that the opinions expressed here are not necessarily an indication of the opinion of BMUG, Inc. or its directors.

Prices indicated are in the format **list price/cheapest price** we've found. Always assume you can receive a better price somewhere else! Do not assume that a high-priced product is better than one that's almost free, some publicly distributable software, Shareware, and free products are of higher quality than similar commercial products. We only list released, currently shipping, supported products here—no VaporWare allowed! If alternatives exist, we won't list any copy-protected software.

Most products are less expensive when ordered from telephone/mail-order advertisers found in magazines like MacWorld, MacUser, Byte or at your local Mac-only store. Large computer retail stores, like Businessland or Computerland, will probably laugh in your face if you try to bargain down their prices. At least you can try. If they laugh, then you can laugh as you pick up the phone. Most mail-order products can be in your hands within two days.

Hardware Choices

Hard disk drives

"What hard disk should I buy?" This has turned out to be a relatively easy question. We've seen evolution at work when it comes to hard disk drives. Only the smart companies have prospered, and the reason appears to be that they have provided good service for a reasonably good product. Word gets around if you have a good product, and even more so if you have a bad product. It seems that there are more bad drives than good drives. A hard disk drive needs to be reliable and have a good power supply.

Just as important is good technical support. Even the most reliable company may have a few bad drives get out there. When something goes wrong, you will need someone knowledgeable who can help you through the problem. They must be able to handle Mac beginners as well as Mac experts. Documentation is also important. A good manual can save a phone call or just be informative. Then there is price.

This gives you a hint as to what criteria BMUG uses in determining the drives we recommend. The price would have to be very low indeed to overcome any of the above factors. You'll pay now, or you'll pay later.

DPI .....$1595 / $1295

We can't say much about their fixed media drives, but we know volumes about their 44 Meg. removable. It is fast, reliable and trouble-free; the best of all the SyQuest removable drives available. BMUG records most of its financial records on a DPI removable.

DPI, 40 Corning Ave. Milpitas, CA 95035. 408-945-1850; 800-825-1850; FAX: 408-945-8148

CAI .....$599 for the 40 Meg. Quantum Drive

This is one of the best buys in a external hard disk drive. Two year warranty and 18 millisecond access time and quiet besides. Be prepared for a rude reception on the phone — what did you expect for such low prices?

CAI, 10606 Baltimore Ave., Beltsville, MD 20705. 800-622-3384; FAX: 301-587-2132

Hammer Drives .....$$$$$

An expensive, but relable series of hard drives that has excellent formatting software which can tack advantage of the inherent speed of even the fastest drives, such as the CDC Wren-4 drives.

FWB, Inc., 2040 Polk St., Suite 215., San Francisco, CA 94109. 415-474-8055; FAX: Not Availalbe

Floppy 800K (Double-sided) Disk Drives:

For speed and convenience, no floppy disk drive can match a hard disk drive, but if you must have a second 800K floppy drive, buy one of these.

Apple 800K (Double-sided) Drives .....$399 / $325

The Apple drive is head and shoulders above any third party drives, but you will pay through the nose for it.

Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014. 408-996-1010; FAX: 408-974-6726 (Sales Support) or 408-252-2775 (Customer Support)

Modems

USRobotics Courier 2400 baud.....$599 / $139

Fully Hayes-compatible and pretty reliable. This modem has turned out to be much more reliable than the Avatex 2400 that we also used on the BMUG BBS.

USRobotics, Inc., 8100 McCormick Blvd., Skokie, IL 60076. 312-982-5010; 800-342-5877; FAX: 312-982-5235

USRobotics Courier, HST 9600 .....$895 / $395

The world of EchoMac and Fido BBSs revolves around these 9600 baud modems. BMUG's BBS's mail gets sent with these modems. URS has a great price for Sysops. Call them to find out the current price.

USRobotics, Inc., 8100 McCormick Blvd., Skokie, IL 60076. 312-982-5010; 800-342-5877; FAX: 312-982-5235

SupraModem 2400 .....$179.95 / $129(+$15 for cable if needed)

A nice low-end Hayes-compatible 2400 baud modem. It seems to be less sensitive to line noise than the Avatex 2400 baud modem. The $129 price is from Computer Mart, 800-443-8236

Supra Corp., 1133 Commercial Way, Albany, OR 97321-7097. 800-727-8772; 503-967-9075; FAX: 503-926-9370

Printers

LaserWriter II NT ..... **$4599 / $3495**
LaserWriter II NTX ..... **$6599 / $4895**

The Apple LaserWriters are the best standard laser printers out there. Based on the Canon SX "print-black" engine, at 300 dpi, they make for very clean printing with almost no toner splatter. The NT prints 8 pages per minute, and the NTX prints 12. The latter also uses the new PostScript® Atlas board, has a 68020 processor, and lets you attach a hard disk for downloadable fonts and raster caching. All models are upgradable (so there is hope for those of you stuck with the LaserWriter II SC, Apple's inadequate QuickDraw printer).

Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014. 408-996-1010; FAX: 408-974-6726 (Sales Support) or 408-252-2775 (Customer Support)

Zericon Large Format Plotters ..... **$1695 to $2695 depending on size**

Plotters that work are rare on the Mac and these **do** work. More or less, that is.

Zericon, 40491 Encyclopedia Circle, Fremont, CA 94538, 415-490-8380; FAX 415-490-3906

ImageWriter II ..... **$595 / $499**

Apple thoughtfully made it hard for third party printers to work reliably on Macs. It's less confusing that way. Sooooo, if you need a dot matrix printer this is the one.

Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014. 408-996-1010; FAX: 408-974-6726 (Sales Support) or 408-252-2775 (Customer Support)

ImageWriter LQ ..... **$1395 / $1095**

Still the printer from hell. The only Apple product where the recall got recalled. But when it works it's a dream come true. That is, if you don't mind the high-pitched whine.

Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014. 408-996-1010; FAX: 408-974-6726 (Sales Support) or 408-252-2775 (Customer Support)

Monitors

Apple Mac II Monitor ..... **13" color: $999 / $719**
12" B/W: $399 / $329

These are the sharpest and crispest monitors available from Apple. In both color and black and white, they're reasonably priced, and of excellent quality.

Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014. 408-996-1010; FAX: 408-974-6726 (Sales Support) or 408-252-2775 (Customer Support)

Sony Standard Multi-Sync Monitor ..... **12": $799 / $550**
16": $1299 / $987

This is the same monitor that Apple uses. With a few mods it can look just as good as the Apple monitor. (Check out the Dec. '88 *MacUser* for modification info.) So if you need a good color monitor and are on a budget, this is the one.

Sony Corp of America, Sony Drive, Park Ridge, New Jersey 07656

Radius 19" Color Monitor ..... **$4295 / $3775**
Interface Kit: $1895 / $1525

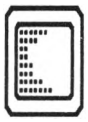
Another aftermarket monitor built around the Sony Trinitron Multi-sync tube. It is extremely crisp, and provides very true color rendition. Probably the ultimate two-page desktop publishing monitor. Also comes with neat and useful software.

Radius, Inc., 1710 Fortune Dr., San Jose CA 95131. 408-434-1010; FAX: 408-434-0770

Apple Portrait Display .....$1698 / $1385

Perhaps the best of the one-page displays. Even better resolution than the Radius, certainly quieter, but a little more expensive. Though it isn't true for all peripherals, in this case Apple has set the standard for monochrome displays.

Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014. 408-996-1010; FAX: 408-974-6726 (Sales Support) or 408-252-2775 (Customer Support)



Radius Full Page Display (B/W) .....$1195 / $895 / [$1295 (with SE/30 card)]

This is the one that BMUG uses. Very sharp and crisp with good software. And still working after 18 months. The deal on SE/30 is great.

Radius, Inc., 1710 Fortune Dr., San Jose CA 95131. 408-434-1010; FAX: 408-434-0770

Sound Digitizing

MacRecorder .....$199 / $180

Compact, well-designed, and deceptively easy to use, MacRecorder (and its bundled *SoundEdit* and *HyperSound* software) is essential for anyone who wants to introduce an aural dimension into their work, particularly with *HyperCard*, databases (such as 4th Dimension), or Email packages which support sound.

Farallon Computing, 2201 Dwight Way, Berkeley, CA 94704. 415-849-2331; FAX: 415-841-5770

Network Products (Hardware)

PhoneNET Plus .....$59 / $42

This is the best for most people who use standard AppleTalk. Well made, easier to use than what Apple has, and less expensive. The main advantage of PhoneNet is that you can use the existing phone lines in your office or home instead of having to buy expensive cabling from Apple, and that you can create networks over four times as long as you can using LocalTalk. Farallon has some of the best tech support around, and also markets several other useful network utilities.

Farallon Computing, 2201 Dwight Way, Berkeley, CA 94704. 415-849-2331; FAX: 415-841-5770

NetModem 2400 .....$599 / $325

A really beautiful, if expensive, little network peripheral. It will act as a modem, accessible for dialing out from any Mac on your network. Half-bridges a Mac to a network, but can lose the connection on a busy network. In other words, you can call into one, and act exactly as though you were directly connected to the LAN it's connected to printing, access to network mail, servers, etc. If you already have your own modem or have other peripherals you want to make available to your network, check out the **TeleBridge** by the same company.

Shiva, 155 - 2nd St., Cambridge, MA 02141. 800-458-3550; 617-864-8500; FAX: 617-864-0914

Network Products (Software)

QuickMail, Vers. 2.0.1 .....for ten users: $300 / $198

The least buggy Mac electronic mail program (meaning it can run under the current System with over 25 users). It's easy to use, and considering it has the most features, that's something. It can be slow when running from a 1 Meg. server, and its remote functions aren't fully thought out (but, heck, they're there). It is still the best buy and is trustworthy.

CE Software, P.O. Box 65580, West Des Moines, IA, 50265. 515-224-1995; FAX: 515-224-4534

AppleShare 2.01 .....$799

A good choice choice for large Mac networks. Its security, speed, convenience, and intuitive interface make this a most appreciated upgrade. You will need to dedicate at least a Mac SE with a fast hard disk for the server.

Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014. 408-996-1010; FAX: 408-974-6726 (Sales Support) or 408-252-2775 (Customer Support)

TOPS, Vers. 2.1 .....$189 / $119

For long-term Mac to IBM PC connections, this is your best option if you have more than 640K in your PC. As a Mac file server, though, *TOPS* has poor security and isn't well-behaved with some software. The easiest of the networks to set up and one of the most stable if you are using it with the right *System* and *Finder*. Not the right one to get if you have a large network.

TOPS, 950 Marina Village Parkway, Alameda, CA 94501. 415-769-8700; 415-769-9669; FAX: 415-769-8772

FlashBox.....$195 / $135

FlashBox can speed up your LocalTalk network to 730,000 baud (give or take a few thousand baud). It will allow you to mix and match (though it works much better if you don't) different kinds of networks and is always lots of fun to debug. BMUG has a few and they work well enough.

TOPS, 950 Marina Village Parkway, Alameda, CA 94501. 415-769-8700; 415-769-9669; FAX: 415-769-8772

Software Products

Word Processors

McSink, Vers. 6.2 .....$?

The best shareware version of what became a buggy commercial product. The best DA for editing large text files. It has grown to a status of legendary proportions among connoisseurs of great shareware, though no longer supported by the author. Beware the 6.5 version!

Dave McWherter, Signature Software, 2150 Brown Ave., Bensalem, PA, 19020. 212-639-8764

WriteNow, Vers. 2.0 .....$195 / $110

This is the best of the under $150 word processors. Version 2.0 can do all the things that you'd want in a word processor (like **save as** a text file). A more refined interface and mail merge make this the one to get if you need a easy to learn and powerful word processor.

T/Maker, 1390 Villa St., Mountain View, CA 94041. 415-962-0195; FAX: 415-962-0201

MacWrite II, Vers. 1.0 .....$295 / $190

David Morgenstern says, "I'd love this program, if it didn't crash every other time I use it." Users of vintage MacWrite will find this product has no more relationship to previous MacWrites than other Mac word processors. In most ways, that's good. This one has multiple windows, multiple columns, word count, color support, and a great spelling checker with dictionaries available in four languages. However, even though it will now save to other word processing formats, it does have some problems in this area, especially saving in Word 3.0 format.

Claris Corp., 5201 Patrick Henry Dr., P.O. Box 58168, Santa Clara, CA 95052. 408-727-8227; FAX: 408-987-7447

Nisus, Vers. 1.01 .....$395 / $229

WriteNow and *MacWrite* are fine for run-of-the-mill word processing, but if you began life in a Unix environment, and miss the power shell scripts (i.e., macros) and GREP-style search and replace options, *Nisus* is the only game in town. Probably the fastest word processor on the Mac, particularly for large documents (as well as the best indexing feature). If you need footnoting, check with the company to see if it's been included by the time you're ready to buy. Also, *Nisus* can read *MacWrite* and *Word* documents, and *PageMaker* can directly import *Nisus* documents.

Paragon Concepts, 990 Highland Dr., Suite 312, Solana Beach, CA 92075. 619-481-1477; 800-922-2993 (outside CA); 800-621-5640 - wait for *BEEP*, then dial the word Paragon (anywhere in USA); FAX: 619-481-6154

Microsoft Word, Vers. 4.0 .....$395 / $217

Word is now easy enough to use and is even more powerful. However, BMUG is still waiting for one of Bill Gates' fingers as it still has a number of bugs. He did promise that it would be 100% bug free. The **Tables** function is one of the niftiest things to have been added to *Word*.

Microsoft Corp, 16011 NE 36th Way, P.O. Box 97017, Redmond, WA 98073-9717. 206-882-8088; 800-323-3577; FAX: 206-883-8101

Spelling Coach Professional, Vers. 3.0 .....$195 / $118
Network version: $495

From Deneba Software come the ultimate spell checking utilities. Invaluable for any author or professional writer, it has the largest spell-checking dictionaries available in digital form, containing about 150,000 words, complete definitions, and full thesaurus functions.

Deneba Software, 3305 NW 74 Avenue, Miami, FL 33122. 800-6CANVAS; 305-594-6965; FAX: Not Available

Graphics Applications

Capture, Vers. 2.0 .....$60 / $35

The best screen-capture program. Aside from saving full color tables, it also saves in a clean PICT2 format, and lets you define your own key command. When used in conjunction with an editor of some sort, it can become one of your most powerful graphic tools.

Mainstay, 5311-B Derry Ave., Agoura Hills, CA 91301. 818-991-6540; FAX: 818-991-4587

PixelPaint .....$495 / $250

This established leader in the color paint field is there for a reason, and the many recent challenges to its position have, for the most part, failed to meet the standards it set more than a year ago. Moreover, SuperMac has a more expensive version, *PixelPaint Professional*, which adds many features that were under-implemented or missing in the earlier version.

SuperMac Technology, 485 Potrero Ave., Sunnyvale, CA 94086. 408-245-2202; FAX: 408-735-7250

Studio/8 .....$495 / $325

Then again, there's always a spoiler. *Studio/8* is the best new color paint program and offers much that you miss in *PixelPaint*. Harder to learn, but has terrific special effects.

Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404. 415-571-7171; 800-245-4525 (Orders only); 415-572-2787 (Customer Support); FAX: Not Available

Studio/1 .....$149.95 / $102.95

A black & white version having most of the same features as Studio/8, but doesn't require a color monitor and adds nifty animation features.

Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404. 415-571-7171; 800-245-4525 (Orders only); 415-572-2787 (Customer Support); FAX: Not Available

FreeHand, Vers. 2.02 .....$495 / $350

Some consider *Freehand* easier to use than *Illustrator* and it opens many common file formats. Beats *Illustrator* hands down when dealing with text—wrapping text to a curve or any other object has got to be seen to be believed—and you can work in "Preview" mode and see your changes occur. The Auto-trace function is adjustable for tightness. Has the complete Pantone Color Matching library and stores custom color libraries.

Aldus Corp., 411 First Avenue South, Seattle, WA 98104. 206-628-2320; FAX: 206-343-4259

Illustrator 88, Vers. 1.8.3 .....$495 / $350

Outputs *PostScript* of unparalleled quality, prints faster than any other PS-based application. It is sufficient for mechanical drafting, graphic design, and geometric solutions. It comes bundled with a complete Pantone Color Matching library. Pattern and symbol libraries are available from Adobe (additional cost). Not well suited for working with text.

Adobe Systems, Inc., P.O. Box 7900, Mountain View, CA 94039. 415-961-4400; FAX: 415-961-3769

Page Layout

PageMaker, Vers. 3.02 ..... $595 / $383

When all's said and done, still the best layout application around! This is the one BMUG chose to layout this *Newsletter*. More than any of the other applications available, the ease and flexibility to change a page is unsurpassed. Granted, it is a bit slow (an understatement) at times, but, there's always 4.0 to look forward too. Hope they don't decide to put a spell checker in—that's all we need...a spell checker for each application (search and replace would be welcome, though).

Aldus Corp., 411 First Avenue South, Seattle, WA 98104. 206-628-2320; FAX: 206-343-4259

TeXtures, Vers. 1.01 ..... $495 / $375

Not the simplest desktop publishing product, but capable of mastering huge documents while offering sophisticated capabilities no other publishing program in its price class can match. Especially for those coming from a "Type" setting background and who are familiar with command-line driven typesetting.

Blue Sky Research, 534 SW 3rd Ave., Portland, OR 97204. 800-622-8398; FAX: 503-222-1643

Fonts and Font Utilities

Adobe Font Packages ..... $95-$395 / $75-$260

Probably the best out there. Although they are significantly more expensive than any other fonts out there, the quality is impeccable, they match the ITC originals very well, and they have "hints" to clean up small point size LaserWriter output. Unfortunately, their printer fonts are encoded, and are thus rendered useless for some applications.

Adobe Systems, Inc., P.O. Box 7900, Mountain View, CA 94039. 415-961-4400; FAX: 415-961-3769

Fluent Laser Fonts $70

Adobe's main competition. The quality isn't quite as good, and the character sets aren't quite as full, but the diversity of their offerings more than makes up for their shortcomings.

Casady & Greene, P.O. Box 223779, Carmel, CA 93922. 408-624-8716; FAX: 408-624-7865

Image Club Font Packages ..... One typeface: $35
Eight faces: $149 / Two sets of eight faces: $259
Three sets of eight faces: $359 / CD-ROM (incl. DigiArt): $999

The third major manufacturer of PostScript fonts has less to recommend it than either of the preceding companies, but they do have a great number of highly useful display faces. They tend to stick to Letraset A.G. faces, and their prices are about midway between those of Adobe and CasadyWare.

Image Club Graphics, Inc., 2915 - 19th St., Suite 206, NE Calgary, Alberta T2E 7A2 Canada. 403-250-1969; FAX: 403-261-7013

Adobe Font Downloader 3.30 ..... **Free**
Included with Adobe Typefaces

Adobe's alternative to the Apple *LaserWriter Font Utility* is bundled with all of their font packages. It's slightly faster in downloading, with seemingly less overhead time, and has always been preferred for use with Linotypes. Its single major drawback is that it does not allow the automatic downloading of a list or set of printer fonts, as does Apple's utility.

Adobe Systems, Inc., P.O. Box 7900, Mountain View, CA 94039. 415-961-4400; FAX: 415-961-3769

Apple LaserWriter Font Utility ..... **Free**
Included with Apple LaserWriters

Fell from favor for a few months after the release of *System 5.0*, but a new release, with the same version number, has corrected the previous incompatibility, and this remains the most intuitive downloading utility.

Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014. 408-996-1010; FAX: 408-974-6726 (Sales Support) or 408-252-2775 (Customer Support)

Font/DA Mover, Vers. 3.8 ..... **Free**
Included with Apple System Software

In many ways one of the most revolutionary things Apple released last year. It finally implemented the NFNT, or "New Font Numbering Table," for which desktop publishers and font developers had been clamoring. First, you no longer need to have four separate entries in your "Font" menu for each of your typefaces, and second, the NFNT eliminates the bedeviling "font ID conflicts" by increasing the usable number of font ID's from 128 to more than 32,000.

Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014. 408-996-1010; FAX: 408-974-6726 (Sales Support) or 408-252-2775 (Customer Support)

Suitcase II, Vers. 1.2.5 ..... **$99 / $49.95**

The winner and still champion. When you need access to all the fonts you own — and all the desk accessories and sounds and FKeys. Lots of neat functions and utilities were added with this new version. Also, in a continuing effort to keep this gem up-to-date, Fifth Generation releases "updaters" for public distribution to the various telecommunication services (CIS, GEnie, BMUG BBS, etc.) as problems are discovered and corrected.

Fifth Generation Systems, 11200 Industriplex Blvd., Baton Rouge, LA 70809. 800-225-2775 (Sales Support); 504-291-9953 (Tech. Support); FAX: 504-295-3268

OCR Software

OmniPage, Vers. 1.0 ..... **$895 / $695**

OCR like falling off a log. It really works — if you have a Mac II and four Meg. of RAM and cash to spare.

Caere, 100 Cooper Court, Los Gatos, CA 95030. 408-395-7000; FAX: 408-354-2743

Accutext ..... **$995 / $729**

About as easy to use as *OmniPage*, but reads a much wider variety of pages, especially poor quality ones. Maintains much of the document's formatting. Requires 4 Meg. and 68020 or better. Its quirk is that it doesn't show an on-screen version of the translated page. You have to go to your word processor for that.

Xerox Imaging Systems, 1215 Terra Bella Ave. Mountain View, CA 94043-1833. 415-965-7900; FAX: 415-965-3474

Databases

4th Dimension, Vers. 1.06 ..... $695 / $440

It's big, it's relational, it had external procedures before *HyperCard*. And it's slow. But *4D* still has a good language, a passable interface, and the best shot at making a Mac database look like a Mac database. For big, tough developers only (at least until Version 2 becomes available).

ACIUS, 10351 Bubb Rd., Cupertino, CA 95014. 408-252-4444; FAX: 408-252-0831

FoxBase/Mac, Vers. 2.0 ..... $395 / $205

Its principal claim to fame is that, on the Mac, it can run 100% of dBase III programs unmodified. What few have discovered yet, it is also possible to point and click to build a Mac-style interface, even a Mac style application. It is as much as fifty times faster than competing relational databases. In another coup, *FoxBase+ MultiUser* can run on MS DOS machines and Macs on a network and work on the same database files simultaneously! Also available as runtime (one time fee $300).

Fox Software, 118 W South Boundary, Perrysburg, OH 43551, 419-874-0162; FAX: 419-874-8678

FileMaker II ..... $299.99 / $235

The queen of the databases for the Mac; a pleasure to use. Can link up with other *FileMaker* files over a network without any additional software. May not be powerful enough for some of the more complex needs, but you should try it to find out.

Claris Corp., 5201 Patrick Henry Dr., P.O. Box 58168, Santa Clara, CA 95052. 408-727-8227; FAX: 408-987-7447

Panorama, Vers. 1.1 ..... $395 / $205

This should be called "Son of OverVUE." If you put up with OverVUE's eccentricities for its blinding speed and extreme flexibility (not to mention charts and macros), you'll love *Panorama*, which now is a much more Mac like product, especially for printing, multiple windows, and forms design. The product still has some eccentricities, and the manual is disorganized.

ProVue Development, 15180 Transistor Lane, Huntington Beach, CA 92649. 714-892-8199; FAX: 714-893-4099

QuickDex, Vers. 1.4 ..... $60 / $47.79

QuickDex is getting a little long in the tooth. Casady & Green is wandering from the simple but very useful utilities to the sexy and much more difficult to program utilities. Still the best in its class but showing its age.

Casady & Greene, P.O. Box 223779, Carmel, CA 93922. 408-624-8716; FAX: 408-624-7865

HyperCard, Vers. 1.2.2 ..... $49.00

Free with purchase of a Macintosh

All arguments aside, if you want a database with crawling worm buttons or honking menus — if you want to build it the way you want it — you should be using *HyperCard*. The story tracking database for this Newsletter was done in *HyperCard*.

Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014. 408-996-1010; FAX: 408-974-6726 (Sales Support) or 408-252-2775 (Customer Support)

Languages

THINK C, Vers. 4.0 ..... $249

The development system of choice for the BMUG Developers SIG. It's fast, efficient, and the tech support is excellent. This version introduces the object-oriented features of C++, and comes with a MacApp-like class library (written by a BMUG member).

Symantec, 135 South Rd. Bedford, MA 01730. 800-64THINK, 617-275-4800; FAX: 617-275-2124

THINK Pascal, Vers. 2.0 ..... $150 / $85

The standard Pascal around BMUG. The 2.0 is a major improvement over 1.1. Recommended by the BMUG Developers SIG.

Symantec, 135 South Rd. Bedford, MA 01730. 800-64THINK, 617-275-4800; FAX: 617-275-2124

Business Applications

Calculations

Excel, Vers. 2.2 ..... $395 / $240

Veteran Excel users are disappointed this version doesn't have more new features, but the biggest limitations in this relatively flaw-free program have been fixed. It now uses all your Mac's memory normally and supports a wider range of formatting options, including variable height rows.

Microsoft Corp., 16011 N.E. 36th Way, PO Box 97017, Redmond, WA 98073-97017. 206-882-8088; FAX: 206-883-8101

Full Impact, Vers. 1.1 ..... $395 / $225

Similar to *Excel* but more fun. Charts and text boxes can be included in a single worksheet, supports XCMDs. Many businesses, including several large corporations, have used this to do large projects Excel 1.5 couldn't handle.

Ashton-Tate, MacDivision, 20101 Hamilton Ave., Torrance, CA 90502-1319. 213-329-9989; FAX: 213-538-7996

Wingz, Vers. 1.0 ..... $395 / $240

Was it worth the wait? Well, it's the most flexible spreadsheet available for microcomputers, because its interface is written in its own language. It does jazzy 3-D graphs, but there are some version 1.0 limitations. It lacks split window capabilities, and the manuals are mediocre, but it's the fastest things on...wheelz.

Informix Software, Inc. 16011 College Boulevard, Lenexa, KA 66219. 913-579-7100; FAX: 913-599-7350

Heizer Software ..... price varies by application

A template broker primarily for Excel, but also for Microsoft Works, HyperCard, and SuperCard. The templates are often semi-pro or amateur, but the prices are great! Over 1,000 products in the current free catalogue. Many demos available. Tech Support line. Their tax templates have been the best available in Excel for a few years.

Excellent Exchange, 1941 Oak Park Blvd., Suite 30, Pleasant Hill, CA 94523. 415-943-7667; FAX: 415-943-6882

Terminal Emulators and Communications Programs

MicroPhone II, Vers. 3.0 .....$295 / $195

The best keeps getting better. In its third major revision continues to be the leading telecom program for the Mac. Still easy to use and more powerful than a locomotive. Still somewhat expensive. Even supports XCMDs and Zmodem.

Software Ventures Corp., 2907 Claremont Ave., Suite 220, Berkeley, CA 94705. 415-644-3232; In CA: 800-336-6478; Rest of USA: 800-336-6477; FAX: 415-848-0885

MicroPhone, Vers. 1.5 .....$149 / $99

For those of you who don't need a telecom program more powerful than a locomotive then check out this older version of MicroPhone.

Software Ventures Corp., 2907 Claremont Ave., Suite 220, Berkeley, CA 94705. 415-644-3232; In CA: 800-336-6478; Rest of USA: 800-336-6477; FAX: 415-848-0885

FreeTerm .....BMUG Disk Tele 2: Free

Simple bare-bones term program. But it is free and easy to use. It also is one of the fastest applications for downloads.

BMUG, 1442A Walnut St., #62, Berkeley, CA 94709-1496. 415-549-2684; FAX: 415-849-9026

ZTerm .....BMUG disk Tele 5: $45 (ShareWare)

The new shareware phenomena that is as good as many commercial products. It was the first telecom program to support Zmodem . No scripting but still powerful.

David D. Alverson, 5635 Cross Creek Rd., Mason, OH 45040.

General Utilities

S.U.M....(Symantec Utilities for the Macintosh), Vers. 1.1 .....$99.95 / $56

By far the best of the data recovery programs. Still needs a little work on the user interface. But as it is you can retrieve initialized hard disks, recover files that have been thrown away or recover a messed up hard disk. Thousands of floppy and hard disks later, most people prefer *SUM*.

Symantec, 135 South Rd. Bedford, MA 01730. 800-64THINK, 617-275-4800; FAX: 617-275-2124

S.A.M ....(Symantec AntiVirus for Macintosh), Vers. 1.0.....$99 / $69

The first of a new generation of virus fighting programs. It checks your disks after your insert them into your drive. The perfect gift for the laser parlor that has everything.

Symantec, 135 South Rd. Bedford, MA 01730. 800-64THINK, 617-275-4800; FAX: 617-275-2124

Can Opener, Vers 1.0 .....$125 / $75

The best thing for recovering data from corrupted files, not so good at finding text in EPSF pictures or bit-mapped pictures; great with ASCII, PageMaker, and PICT or PICT2 files. Also sports the best NeXT interface in a Mac program.

Abbot Systems, 62 Mountain Rd., Pleasantville, NY 10570. 800-552-9157; FAX: 914-769-4680

On Cue , Vers 1.3 ..... **$60 / $38**

This is what Apple should have done. It makes the Finder and hard disk drives full of files almost easy to use. You can fly around with just a mouse click. Fun, fun, fun.

ICOM Simulations, 648 S. Wheeling Rd., Wheeling, IL 60090. 312-520-4440; FAX: 312-459-3418

QuicKeys, Vers. 1.2 ..... **$99 / $80**

QuicKeys is a macro maker that does the same things that *MacroMaker* from Apple does, but is far more powerful. You can define keys to do certain actions, run FKeys, insert text strings, select menu items and almost anything else you can think of. This version has the real useful QuickTimer, too.

CE Software, PO Box 65580, West Des Moines, Iowa 50265. 515-224-1995; FAX: 515-224-4534

SCSI Tools ..... **BMUG Disk Util. 15: $5 (Shareware)**

One of the more useful CDEVs. It will mount a SCSI drive from the Control Panel. The author, Paul Mercer, requests that you send you $5 to UNICEF, the children's fund.

BMUG, 1442A Walnut St., #62, Berkeley, CA 94709-1496. 415-549-2684; FAX: 415-849-9026

SCSI Probe ..... **BMUG Disk Util 14: Freeware**

Who would have thought that you could improve on SCSI Tools, surely one of the few perfect Mac utilities. But Robert Polic has. Not only does it mount SCSI drives faster than SCSI Tools but it will show what drive is inside that hard disk box and the ROM version number. All that with only 4K too.

BMUG, 1442A Walnut St., #62, Berkeley, CA 94709-1496. 415-549-2684; FAX: 415-849-9026

Entertainment

Tetris, Vers. 1.3 ..... **$34.95 / $22**

So it's 7 pm, and you want to unwind a little. You boot up *Tetris*. You glance at the clock; it's now 1:30 am. Just one more turn before you go to bed. The next morning at 7:30, you wake up after only four hours' sleep. How do you spell "addicting?" *T-e-t-r-i-s!*

Spectrum HoloByte, 2061 Challenger Dr., Alameda, CA 94501. 415-522-3584; FAX: 415-522-3587

Crystal Quest, Vers. 2.2 ..... **$79.95 / $47.95**

The classic Macintosh arcade game, and particularly fun when you use the included *Critter Editor* to apply the faces (and voices) of your favorite nemeses to the nasties. Though nobody will want to change the straight-out-of-the-Orgasmatron sound effect played at the end of each successful level.

Casady & Greene, P.O. Box 223779, Carmel, CA 93922. 408-624-8716; FAX: 408-624-7865

Leprechaun, Vers. 2.6 ..... **$59 / $40**

A fun arcade game that revolves around Leprechauns and gold pots. Fun to play if you like the type. BMUG has demo that will play the first 21 levels on BMUG Game 48.

Shodan, P.O. Box 4456, Berkeley, CA 94704. 415-849-9475; FAX: Not Available

Might and Magic ..... **$49 / $34**

A graphic adventure somewhat like *Ultima III* and *Wizardry,* but more flexible. Explore dungeons and strange new worlds. Lots of fun, but still buggier than you'd think. The Apple II version is much better and in color.

New World Computing, PO Box 2068, Van Nuys, CA 91404. 818-785-0401; FAX: 818-785-5034

The Fool's Errand ..... **$49 / $29**

A great game for those that enjoy word and thought puzzles. Lots of things to do in this game. It's by far the best game of this type on the Mac.

Miles Computing, Inc., 7741 Alabama Ave., Suite 2, Canoga Park, CA 91304. 818-884-2781; FAX: 818-340-8638

Shanghai ..... **$39 / $27**

A strategy game using Chinese Mah Jong tiles. Soon to be in color and 3-d.

ActiVision, 3885 Bohannon Drive, Menlo Park, CA 94025. 415-329-0800; FAX: 415-322-0260

SimCity ..... **$49.95/$33.95**

A revolutionary "game," *SimCity* is in many ways the most detailed and fascinating simulation application available. Be in charge of an entire city's economy, services, zoning, and development and see whether you lead it to prosperity or ruin. Too bad a lot of voters haven't had the chance to see how their mayoral candidates did in this game.

Brøderbund Software, 17 Paul Dr., San Rafael, CA 94903. 415-492-3500: FAX: 415-499-8661

SeaHaven Towers **$20**

A great solitaire color game for the Mac II. Has a few quirks, though. When you win, it should do something special. All this does is show a new landscape with some subtle animation. But, guess what, it works on a SE/30, too. Check it out.

BMUG, 1442A Walnut St., #62, Berkeley, CA 94709-1496. 415-549-2684; FAX: 415-849-9026

HyperCard

The ManHole ..... **$39 / $30**

One of the best game stacks out there over $35. It is sooooo big that it takes 5 disks to play. The artwork is great and the sound is wonderful. Everything here either talks or does something when you touch it. A wonderful game for kids of all ages.

Mediagenic, 3885 Bohannon Drive, Menlo Park, CA 94025, 415-329-0800; FAX: 415-322-0260

The Cosmic Osmo ..... **$54.90/$36.00**

The great follow-up to the wonderful *ManHole* game. Follow Osmo as he wanders through the universe and has many great adventures. Fun for everyone.

Mediagenic, 3885 Bohannon Drive, Menlo Park, CA 94025, 415-329-0800; FAX: 415-322-0260

Miscellaneous Choice Products

CD-ROMS

BMUG's PD ROM .....$100 / $79

A good deal if you have a CD drive and want lots of publicly distributable software. It has almost everything that is in the BMUG software library. M.A.C. has the $80 (or so) price.

BMUG, 1442A Walnut St., #62, Berkeley, CA 94709-1496. 415-549-2684; FAX: 415-849-9026

The Micro D MultiMedia Three Pack .....$249 / $189

This is one of the best deals for CDs out in the real world. You can get the famous BMUG PD CD as well as the MacroMind CD ROM and the Desktop sounds from Reflective Arts. The best deal around, until September 30th only!

EggHead stores have the best prices.

The ManHole .....$39 / $30

What has charms to soothe the savage children? This, most fun, most accessible piece of multimedia yet! Much bigger than the floopy disk version.

Mediagenic, 3885 Bohannon Drive, Menlo Park, CA 94025, 415-329-0800; FAX: 415-322-0260

Magazines

MacWEEK .....$75 ($300 air mail) / Free to qualified subscribers

MacWEEK has become the word on Macintosh related issues, and sets the standard for computer weeklies. Mac the Knife has the highest true rumor rate of any of the computer magazines: Over 50%, as opposed to *MacUser's* 15%.

MacWEEK, Customer Service Department, P.O. Box 5821, Cherry Hill, NJ 08034. 609-428-5000; Mac the Knife: 415-243-3500; Editorial FAX: 415-243-3652

MacWorld .....$30 / $24 for one year

A new look and tighter reviews have improved *MacWorld* in the running competition with *MacUser*. Right now it seems about even. Try them both and subscribe to one that you like.

PCW Communications, Subscriber Services, P.O. Box 54529, Boulder, CO 80322-4529. 800-525-0643; 415-546-7722; FAX: 415-442-0766

MacUser.....$47.40 / 19.97 for one year

Still fun and informative with lively columns and the always entertaining John C. Dvorak. *MacUser Labs* is one of the best but they still won't tell you when they have a bad product. You have to pay attention to the reviews to find out what is good and what is bad.

MacUser, P.O. Box 56986, Boulder, CO 80321-6986. 303-447-9330; 415-378-5600; FAX: 415-378-5675

CD ROM End User .....$40 / Free to qualified subscribers

If you are in the business of CD ROMs then this is the one to get. Reviews and interesting columns. You do have to qualify to get the free subscription.

DDRI, Inc, 6609 Rosecroft Place, Falls Church, VA, 22043-1828. 703-241-2131; FAX: 703-532-5447

MacUser (The European Version)

Surprisingly enough, the British *MacUser* is a lot of fun. The reviews sometimes remind us of a BMUG meeting. Rough and feisty. Michael Bywater has the bite that John Dvorak sometime lacks. His column about the campaign that Apple UK may have launched against *MacUser UK* is a classic. Apple UK doesn't care for grey market Macs, which in Britain is a big deal. Macs are expensive and Apple dealer support worse than here in the States. *MacUser* accepts ads from companies that may have grey market Macs and software. So Apple UK doesn't care much for this, and pressures dealers not to advertise in *MacUser* and not to participate in the MacUser Expo, Shame! I don't know how much it costs in US dollars but it's £49.95 to get it here in the States. It's certainly a must if you live in Europe.

MacUser, Subscription Dept. DPL, FreePost, Mitcham, Britain CR4 9AR

University MicroNews .....$10 for single issue / $20 for 3 issues

This international publication, with origins in the University of Western Australia, looks at the microcomputer world through ivory tower colored glasses. The articles are incredibly extensive — the last issue had 47 solid adless pages on Mac word processors! (Portions reprinted herein)Universities can purchase a site-license for a publish-it-yourself savings.

University MicroNews, Michael Scriven, editor, PO Box 594, Nedlands, Western Australia 6009.

Books

Desktop Publishing Type and Graphics $19.95
by Deke Slater & Craig Danuloff. Harcourt Brace Jovanovich, Inc.

A truly complete guide to the state of the art in desktop publishing, as it existed at the end of 1987. This book is interesting not only in an historical context, but actually contains a lot of information which isn't yet outdated! A lot of type samples from different manufacturers, and sample output from different kinds of printers, at different resolutions.

The Well-Connected Macintosh $11.95
by Tony Bove and Cheryl Rhodes. Harcourt Brace Jovanovich, Inc.

The ultimate networking handbook! This is the only book on the market right now which does a better job of explaining **all** the major network products than do their respective manuals. Especially in-depth on the subject of dedicated-server file-sharing networks.

Macintosh Family Hardware Reference $21.56
published by Apple Computer Inc. in conjunction with Addison-Wesley, Inc.

For people who want to know no-nonsense info about a variety of stuff, keep this one by your Mac.

Using PageMaker $24.95
by C.J Weigand. Que Corp.

A well rounded book about *PageMaker* for the Mac. Good for beginners to intermediate users of *PageMaker*. A good tutorial and reference.

Que Corp, 11711 N.College Ave, PO Box 90, Carmel, IN 46032, 800-482-5331; FAX 317-573-2583

Best place to buy a Mac Book .....Cody's Book Store

On Telegraph Ave. in Berkeley, the best selection of computer books in the East Bay. (Accounts available for schools and businesses)

Cody's Book Store, 2454 Telegraph Ave., Berkeley, CA 94704. 415-845-7852; FAX: 415-841-6185

Mail/Telephone-Order Vendors

ComputerWare

One of the best places to shop for Mac things. Lots of room and Macs to play around with. They are fair and just plain friendly. They are the only Mac store that we know of that refunded $1700 for a software product that was unsatisfactory a week after it was purchased.

ComputerWare, 490 California St., Palo Alto, CA. 415-323-7557; in CA 800-323-1133; rest of the world 800-235-1155; FAX: 415-855-9440

M.A.C. (Modern Accessories for Computers)

Probably the lowest average price for Mac applications and peripherals in the country. They have a policy of beating any advertised price and they do it if you bring a current ad with a lower price.

M.A.C., 2156A University, Berkeley, CA 94704. 415-644-0516; 800-289-2622; FAX: 415-644-0584

MacOrchard

About the most helpful Mac store in the Bay Area. In their new store they have more room for Mac demonstrations. The people are knowledgeable about almost any aspect of the Macintosh.

MacOrchard, 1928 Shattuck Ave., Berkeley, CA. 415-649-2100; 800-852-4666; FAX: 415-649-2113

MacConnection

The best of the mail order companies. They will send any order overnight for $3 extra.

MacConnection, 14 Mill Street, Marlow, NH 03456. 800-622-5472; FAX: 603-446-7791

Mac Repairs

C.J.S.

After over four years of repairing Macs, C.J.S. is one of the best Mac repair places in the Bay Area. They are friendly, reasonably priced and about the only place that will even attempt to repair your ruined 800K floppy drive. Across the street from the Ashby BART station.

C.J.S., 3051 Adeline, Berkeley, CA 94703. 415-849-3730

M.A.C. (Modern Accessories for Computers)

Not as good as C.J.S. for major repairs but for most of the simple things (like a blown power supply) they are not as expensive.

M.A.C. 2156 University Ave., Berkeley, CA 94704. 415-644-0516; FAX: 415-644-0584

MacOrchard

MacOrchard will repair things that they are the authorized dealer for. Like Radius and SuperMac and many others.

MacOrchard, 1928 Shattuck Ave., Berkeley, CA. 415-649-2100; FAX: 415-649-2113

BMUG Controversial Choices

Best BMUG Meeting...(June 15, 1989) .....Chris Crawford

You had to be there. Chris gave a great and funny demo of a great game called *Guns and Butter*. Knowing BMUGs reputation, he brought the first BMUG bull whip to keep us in line. The best meeting of 1989.

Best Use of World Builder .....SuperCard

.A great development system that is almost a waste of time on a Mac Plus/Mac SE. It's almost what *HyperCard* could have been. Color, multiple cards, menus, and a better scripting environment.

Silicon Beach Software, 9770 Carroll Center Rd., Ste. J, San Diego, CA 92126. 619-695-6956; FAX: 619-695-7902

Best Non-Color Use of World Builder

BMUG's home in politically correct Berkeley precludes our including Robert Carr's *MacWanker* and *PornoWriter* in the shareware library. They are hilarious combinations of ridiculous sounds, text and graphics with a scatological bent. Carr also writes the black satirical magazine, *Smurfs in Hell.*

Robert Carr, 2210 North 9th Street, Boise, ID 83702. 208-338-9227.

Most Interesting Computer That No One Has Seen

Now it's Apple's new unknown computer for the rest of us than may come out next April. A low cost Mac that is rumored to run Apple II software(with Apple II color) and have 2 Meg. of RAM and cost around $1300. If not April then Fall. Something to wait for.

Most Penny-Wise and Pound-Foolish .....Still Apple

Apple's 90-day warranty is a shame. When asked why it doesn't have a long warranty, the companies answer is pure AppleSpeak: "You really don't need one because Mac's are so reliable," (say what?). Our favorite is the excuse that giving a longer warranty would take the choice away of who you might want to fix your Mac.

Best Use of a BMUG Meeting as a Political Forum .....SewSoft

While showing the desktop sewing program *SewSoft,* by Andros Software, David Hall climbed into a skirt onstage. He then lectured the BMUG crowd on the unfair sexual politics of male/female dress. The demo was capped with a plug for a transvestite bar and support group in San Francisco. Fantastic!

Best Big Computer Show .....MacWorld Expo. (San Francisco)

Well, the one in Boston always has nasty weather...and that's just inside the buildings! It's a great place to see everyone you haven't seen during the past year 'cause *they've* been too busy. (Also, a good place to pick-up your summer wardrobe.) Usually the third weekend in January (San Francisco) except in 1990 when it will be in April (over Easter and Passover!!!)

For info and dates: MacWorld Expo, Box 155, Westwood, MA 02090.

Boston, MA, August 10-12, 1989
Bayside Expo Center • World Trade Center

San Francisco, CA, April, 1990
Moscone Center • Brooks Hall

BMUG Controversial Choices

Best Industry Specific Show .....Seybold Desktop Publishing Conference
September 20-23, 1989.

If you're into Desktop Publishing, this is the show to go to. It's gotten so large that it's having to move from the Santa Clara Convention Center (in San Jose) to the Moscone Center in San Francisco (the site of the MacWorld Expos) for this year — it will be returning to the new San Jose Convention Center in 1990.

Best Flowers .....Ashby Flower Shop

For the best Fresh Flowers to sit next to your Mac. Always fresh and nice looking.

Ashby Flower Shop, 300 Telegraph (at Ashby), Berkeley, CA 94704. 415-849-3121

Best Hamburgers in Berkeley

Fat Apples .....$4-$5.25

Succulent burgers topped with mounds of freshly-grated cheeses, bacon, chili, etc., outstanding fries, ollalieberry pies, and the best coffee milkshakes in the world. Sigh.

Fat Apples, 1344 Martin Luther King, Jr. Way, Berkeley, CA 94709 % 415-526-2260

Best Small Macintosh Newsletter

The M.U.D. slinger .....$24 for one year

The Macintosh Users of Delaware produces one of the best small newsletters around. The articles are mostly written by M.U.D. members and are consistently interesting and informative. The *M.U.D. slinger's* D.C. Expo report was the **only** one to mention the BMUG Tie-Dye T-Shirt as a hit product!

PO Box 17, Rockland, DE 19732.

Best Large Macintosh Newsletter (other than this one, of course)

The PMUG Mouse Tracks .....$24 for one year
Current back issues are $2.95, plus $1.25 postage and handling.

The Portland Macintosh User Group newsletter (excuse me — journal), *Mouse Tracks*, continues to be a great source of Macintosh information. Articles from the newsletter are reprinted in other MUG newsletters across the country. It's good reading from nice folks.

PMUG Mouse Tracks, PO Box 8895, Portland, OR 97207.

Car Most Often Used by BMUG Members

Honda .....Choose a model; pay what you like

For getting to BMUG meetings, and everywhere else, we vote with our feet and hit the gas in a Honda! And ya know something funny, they come with a 5-year warranty...isn't that strange?

Check your local listings for a dealer near you.

BMUG

BMUG Meets MicroTimes 2.0

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This article is a bit different from the rest of the bonbons that make up the BMUG Newsletter candybox. It is a compilation (with a bunch of new editorials) of a series of magazine articles.

Last year, MicroTimes, California's Computer Magazine, published by BAM Publications, decided to highlight their coverage of the Macintosh. They created a new section of the magazine, called Mac @ Work, consisting of two or three reviews, columns on HyperCard, Mac-PC Connectivity, and perhaps a column of news and rumors.

Mary Eisenhart, managing editor, approached BMUG for a monthly column, entitled the BMUG Report. The column would combine discussion from the weekly BMUG main meeting, HelpLine experiences, and hot tips.

The column has been well received — even by non-Macintosh users! This information was relayed to me by my father, perhaps a slightly biased source. I think the PC users must have been stuck on a bus without a book and were ready to read anything.

Working on the column has been a dynamite experience for me. It is a great privilege to write under the BMUG banner.

I was not born with a hard or soft computer head — it's all right brain. I've relied on the generous help of the TeamBMUG members to keep me on the path of coherence and accuracy. My special thanks (in no order) to: Steve Costa, Steve Howard, John Heckendorn, Raines Cohen, Phil Reese, Greg Dow and Randy Simon.

Some parts this article will be outdated. It was news when it was written and now it's Mac history. The Macintosh scene changes very quickly, with new hardware and software announcements weekly.

It's difficult to include all users in tips and solutions. The user of a multi-megabyte Mac IIcx has a different set of concerns than someone plugging along with a 512KE!

Apple's recent announcement of its plans for new system software will screw-up all reporting and reviewing for a year or more. We will have to include a caveat for almost everything — but in System 7.0 this will ...!

Mid December 1988

MicroTimes, BAM Publications, Inc.

5951 Canning Street

Oakland , CA 94609

415-652-3810.

12 Issues, US: 3rd Class $24.]

Welcome to the seventh BMUG column. We've BMUG memories from the past year and some tips and information to take into the new.

Wholly BMUG

What's better than Monday Night Football? The weekly BMUG main meeting! Luckily Mac gridiron fans never have to make the choice, since the meeting is on Thursday. We have visiting software marketing teams dropping the ball. It's a double-tasking game, where everyone is a referee and a player simultaneously The ever-faithful crowd at the meeting will tell you that BMUG never Scores!

TurkeyFest — No Turkey!

The BMUG TurkeyFest (a. k. a. MacToberFest) was a great success. Thousands of visitors flooded into the spacious hall above the Berkeley Student Union. The main ballroom held the dozens of Macintoshes (provided by the manufacturer), while seminars on file recovery, desktop publishing and other good stuff convened in a conference room.

This festival is a chance for members to show everyone what they're doing with their software. Everyone was impressed and proud of the endless variety of software the BMUG-ers use — everything from scientific pro-

grams, illustrations, and databases, to the latest games, HyperCard and MIDI music software.

The Fest is also a great time to get some answers to those questions that have been on the back-burner simmering. At the TurkeyFest you could not only get your question answered, but talk to the programmers writing your software. If they don't have a current solution to your problem, you'll see it in the next release.

The NeXT Congregation?

After the meeting came the weekly BMUG main meeting, featuring our surprise mystery guest, Steve Jobs. A line stretched for a block downhill from the lecture hall's double doors. Hundreds of people waited in the cold night air for the first public demonstration of the NeXT computer!

It was fantastic to see both the new NeXT computer in action and Saint Steve of the Forbidden Fruit and Black Cube in the flesh. The crowd was on pretty good behavior for one of the exalted Macintosh Saints. Jobs said, "If you have any questions, I'm sure you'll jump right in." We did.

He was enthusiastic about his new baby. But whenever Jobs had to say the A—le, or the Mac——sh words, his eyes got hard and his jaw tightened. Liz in the BMUG business office thought it was the same feeling you'd get if you'd hear that your ex-spouse has done something great — a combination of pride and anger. He didn't want to talk one bit about the Macintosh, other than it's a has-been now that the NeXT is off the drawing board.

Jobs is fantastic on the floor. He's a computer Indiana Jones, dressed in brown leather and white shirt. Perhaps it's a carnivore power statement, but more likely he just wanted to keep warm on a chilly evening.

Get A Jobs

Jobs gave the Davies Symphony Hall Coming-Out spiel for BMUG, including the NeXT board manufacturing video and computer history slide show. He was surprised by a sudden roar of boos over a slide of Stanford—one week before the Big Game.

Unlike the look-but-don't-touch press party, BMUG members got to play with the new toy. Our hardware crew surrounded the NeXT laser-printer and popped-off the top!

It's easy to see why military purchasing is so wild — it's easy to believe the hype. After a slick presentation and a video or two, you believe you're seeing history, not a projection into the future. It is a marketing plan, a ßeta machine, still cooking in the oven. There is no real hardware or software for us—yet. To even be in the running to buy one this year, your name has to end with University.

The NeXT machine with built-in digital audio, microphone, and software, make it easy to send large sampled voice-mail messages to your co-workers and NeXT buddies around the world. Shall we start a betting pool to guess how many NeXT machines it will take to overload the international UNIX-based networks? "All together now — Happy birthday to" — Click.

If the system isn't brought down by trying to swallow all these voice-mail hairballs, it may suffer a headcold. The *SendMail* program was the introduction site for the early November UNIX virus attack. Jobs said that NeXT was affected by the virus.

The demonstration included the *Application Builder* software, an object-oriented programming environment. It is a very impressive and powerful set of tools for quickly creating programs. There can be no doubt that just as *HyperCard* is for the Macintosh, *Application Builder* will be a great source of bad programs for the NeXT computer.

Intellectual Property Protection (With Class)

Sometimes programs have a shorter half-life than the atom-smashed elements floating downhill from the Berkeley laboratories. Ask Rick Scherle, a local independent consultant on product design and *HyperCard* developer.

After the NeXT announcement in October, Rick wrote a program called *Browser*. It made the Macintosh DeskTop look just like the NeXT interface. It was not a *Finder* substitute, like *Minifinder* or *PowerStation*,

with the ability to launch programs; however it could open and close folders. Everyone at BMUG thought it was a trip and it was put on the Bulletin Board.

Soon thereafter, one morning, Rick got a call saying, "Hi Rick, this is Steve Jobs." He went down to NeXT and had an "extremely cordial" meeting with the Living Saint. They discussed the NeXT interface design and put the machine through its paces. But they weren't happy about *Browser*.

NeXT was primarily concerned about infringements of its intellectual property. They also didn't want anyone to confuse the origins of the program, since its icon was the NeXT cube. Bye-bye *Browser*.

For those of you that missed the Browser — Voila!

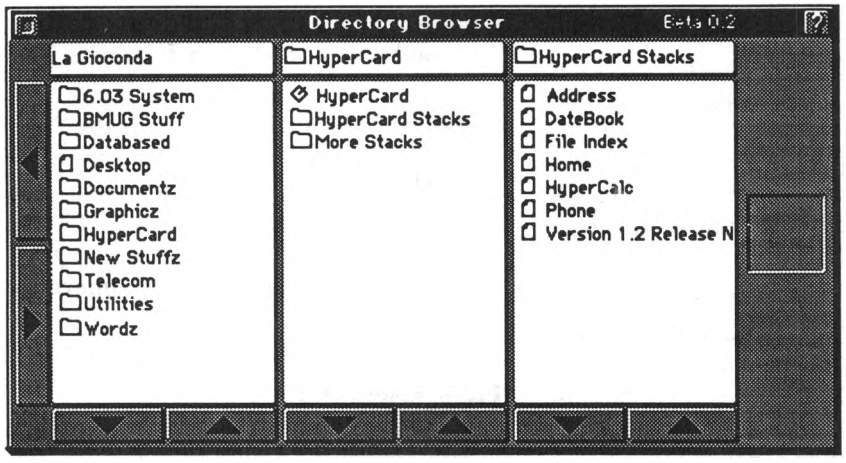


Figure 1

The introduction of the NeXT box and its *different, but still good* interface has sparked the fumes from many users and programmers. They've wondered why Apple has been so conservative on changes to the Human Interface Guidelines.

Some folks have done something about this. The *NeXT Kit* is a set of INITs and installable system patches that make your Mac look and feel like a NeXT machine. The following is from their documentation.

"The Gas Gasse' Group, the Impeach Sculley Society, and the Steven P. Jobs Memorial Foundation are a group of dedicated Mac users that still remember the initial feelings of looking at a Mac for the first time, and marveling at the creativity that was present. While much has been written about who exactly was responsible for this, we feel that the end results justify the means. However it is also our belief that said creativity ended in 1985 or there about and any further changes in the Mac that were seen were already in the works at that point.

That fact that the Macintosh user interface hasn't changed one iota since then annoys us. The fact that last year John Sculley was paid over nine million dollars (no brag — just fact) to do exactly what, annoys us. Thus we have taken matters into our own hands, so to speak.

With the following mods you will SIGNIFICANTLY change the look and feel of your Mac. We hope that you like it and encourage others to do the same."

They distribute this as "Intelliware" requesting that the next time there is a pledge drive at your local PBS or National Public Radio station, you'd send in whatever you think the package is worth. Intelliware, huh? Sounds like what you'd wear to the Emmy awards.

The Year That Woz

What a year this has been for BMUG and the computer world. To celebrate the new year we've put together a list of kudos and menudos:

- **Best Support of Color.** *Wingz* by InforMix. This spreadsheet has been in ßetaville (*beta* is software development talk for an almost finished program that is being tested) for more than a year. They have had a large and impressive booths at the past few Macworld Expos. The best thing

about the booths are the colored bags they hand out to people that survive their marketing pitch. First it was a red bag, then black, then red again, and now yellow! Isn't venture capital wonderful?

Wingz finally shipped a real product. Lots of spreadsheet junkies like it a lot, but market share is not built on color charts alone.

Insite Periferals
2363 Calle Del Mundo
Santa Clara, CA 95054

Informix is trying hard. They're offering (for a limited time only -sorry, you're too late) a "free" instructional video to learn how to use _Wingz_. "You'll learn about the basic spreadsheet, advanced graphics, and HyperScript programmability."

How many _Wingz_ users can't program their VCR to play the thing?

- **Best Pantomime Virus.** ***DeskTop Manager***. When is a virus not a virus? When it's Apple System Software! The Macintosh operating system has problems with large numbers of different applications or files on a single volume — like the new Apple CD-ROM drive, or an 80 megabyte or larger hard-disk drive.

  The trouble is with the *Desktop file*, an invisible file that hides on your disks. It remembers every icon it's ever seen, type and ID numbers of applications, and the folder IDs of applications. All this information requires a number of bytes for each item remembered. On the big drives this can add up quickly.

  Unfortunately, the Desktop file currently has a limit of 288K. The closer you get to the 288K desktop file limit, the more trouble your Mac will have in keeping track of what's what on the disk. If you hit 288K — Crash!

  Apple is testing an AppleShare Init called the *DeskTop Manager*, which splits the desktop file into pieces. One new problem with this software is that it places invisible files on every volume it can find — even if you aren't using the *DeskTop Manager* on your system. Just like a virus — No?

- **Best Computer Bath-Toy.** Richard Brandow and the balsa wood Laguna laptop. Richard Brandow is the publisher of the Canadian Macintosh magazine, *MacMag*. He is better know as the creator of the *Universal Message of Peace* virus. This was the harmless virus spread around the world by Marc Cantor's MacroMind demo for the graphic program, *FreeHand*.

  Last June at a Mac Montreal User's Group meeting, Brandow presented a "prototype" of the Apple Laptop, code-named *Laguna*. It turned out to be a balsa wood mock-up, with an acetate transparency of the *Finder* glued to the screen. The press had been prepared for a blockbuster event, but instead were treated to a blockhead.

  They knew how to get to the truth in the Middle Ages. Throw the computer into a pond. If the machine sinks, it's a real laptop. If it floats, it's a witch.

- **BMUG Meeting Quote of the Year.** While demonstrating the features of HyperCard 1.2, Bill Atkinson (the creator of HyperCard) said, "It's easy to get a 200 to 1 speedup in a program when you stop doing something stupid." Give us a break, Mr. Macintosh genius programmer!

I'm™ Sorry™ !™

Last episode, I mentioned that the NeXT™ computer uses a *floptical* disk drive. I have now been informed that the word *Floptical*™ is owned by drives made by Insite Periferals (the NeXT drive is made by Toshiba). The drive uses an optical servo-mechanism, but reads and writes data magnetically. It uses high density 3.5" floppies, with special optical tracks, that allow 20.8 megs of formatted storage. The OEM price on the drive will be $250.

Hum A Version AND I'll Fake It

The computer is both the delight and the bane of the perfectionist. With software you can keep fiddling and fine-tuning your work until it's "just right." Of course most people can't recognize when fine-tuning becomes homogenization. Programmers know that no matter how hard they look and test, there will always be one bug left in the program.

If you had some need to chart your progress in a task, you could chronicle every little change to your work. Each modification could be archived as a separate document. This is common practice when playing computer games. Recovering from fatal moves is a snap when you've saved alot.

When software companies start fooling around with their products the result is a new *version*. Most new versions add new features and capabilities to software. When we plunk our wad of dough down to buy a program, we expect that the company will stay in business and continue to improve the program. Most users stick with a program that keeps evolving, or that keeps sending them letters promising something new.

Please Release Me

Sometimes the new version is to fix bugs not found before the product was released. This is called a *maintenance release*. Many programs require periodic maintenance versions because of changes in the Macintosh operating system software.

Sometimes it's hard to figure out what version is what. The current System for the Mac is 6.0.2, meaning it is the second maintenance release (also called a *subversion*) of the 6.0 System software.

The Mac had a solution for this problem — the version resource. This was a place for programmers to put the version numbers of the application. This resource has been around for years, but the it was unsupported, or never read, by anyone. Some programmers put some naughty stuff in there, as a reward for intrepid resource explorers. The roof fell in when the System 6.0 software read the version resource — scatological comments and all.

Under System 6.0 the version resource will appear when you **Get Info** about a particular file in the *Finder*. It is also read by many **About ...** under the Apple menu.

Subverting The Subversion

Recently some developers are trying a more innovative (bad for the user, of course) release strategy. Changes are made in the software going out the door without a corresponding change to the version or subversion numbers. It's possible to have two copies of a software package on the dealer's shelf that look identical, but aren't — one has the changes and the other doesn't.

This practice saves developers lots of bucks. If a bug is in a particular part of a program that most users don't use, they won't supply a fixed copy until you get into trouble and complain! The squeaky wheel release schedule.

The high-end desktop publishing program, *QuarkXPress* 2.0, is a recent culprit (*WordPerfect* too) in this subversion strategy. The HelpLine has gotten lots of calls about *QuarkXPress* problems with EPS color separations. These problems have been fixed in subversions *seven and higher*, but how can the user tell their program's subversion? They don't show up in the **Get Info** window, or in the **About** *QuarkXPress* under the Apple menu. The answer is to hold down the **Option** key while selecting the **About** *QuarkXPress*.

Tip: Ken Peterson, the Portland MUG's techie, tested a bunch of labels for use in LaserWriters. The *Plain-Bond Copier Address Labels* by Instant-Stik (#M-5354) worked the best. On each sheet there are 33 labels measuring 1" by 2 3/4". Hand-feed them to a LaserWriter and use the fold-out collection tray on a LaserWriter II.

January

Welcome to the eighth BMUG column. We've BMUG predictions for the new year and some more reflections on the events of the past. If there's room, we might get some news and tips. Onward and downward.

SuperBowl BMUG

The weekly BMUG main meeting is always a playoff game. The software marketing teams are passing the buck and ducking the bomb. The crowd roars — Crash!

Seance SIG

With the many year end holidays, parties and finals, the regular BMUG meeting gets a few weeks rest. The fun simply moves over

to the Bulletin Board. Here's the prognostication of some BMUGers:

- **Bernard Aboba** (BMUG Board member).

  I predict we're in for a substantial recession in the computer industry, which will be recognized within the next 6 months. The prices of RAM, large monitors, and 386 clones will all go down quite a bit. Apple will not reduce their prices, even when RAM prices decline, so that by the end of next year the cost of the high-end Macintosh will be more than double that of a 386 clone system, despite the clone being at least 50% faster.

  I predict that Microsoft *Windows* will gather substantial momentum, with *Windows 386* really taking off. By the end of next year, *Windows* will have programs that are superior to anything the Mac has to offer. The IBM PC will get a very good *HyperCard* clone, and Apple will sue or threaten to sue. NeXT will require yet another capital infusion before the year is out, and sales of the Cube will be slow.

  Apple will introduce at least one more incompatible bus for the Mac line, and will produce yet more buggy system software, further undermining their credibility with developers. System 8.0 will either not work very well, or will not offer the benefits that have been attributed to it. Not many people will want to pay for the hardware upgrades that will be required to run it. The "connectivity push" will be recognized as a dismal failure.

  Apple will lose additional momentum. By the end of the year, 3rd party vendors will be in control of the printer and device driver market, the monitor market, QuickDraw fixes, HyperCard clones, and other Mac hardware and software, which were formerly under the sole control of Apple. Apple will become almost as irrelevant to the Macintosh as IBM is now to the PC.

- **Steve Costa** (BMUG Technical Director and HelpLine Guru).

  One thing that I know is that AppleTalk 2.0 will be out late next year and will run at around 1, 000, 000 baud.

I don't know what happened, but part of Steve's prognostication never made it to the pages of MicroTimes. I think it was my fault. I add and fix things up to my deadline, when I transmit the file to the magazine electronically. I think I sent the penultimate column. Here it is:

John Sculley, after admitting "he had been living a lie for forty years," will have a sex change operation.

- **John Heckendorn** (BMUG Political Theoretician and Director of Product Evaluation).

  Before the end of the year, Sun will come out with a desktop machine priced under $4, 000. It will include a moderately user-friendly UNIX, MS-DOS available via software or hardware, a 100-meg drive, Ethernet, and other goodies, aimed straight for (no, not NeXT, but...) — I Betcha Money. Oh, yeah, the thing will roar at about half again the speed of the PS2 Model 80.

  If NeXT operating system software, version 1.0, is released on schedule (second quarter '89), sales to universities during the Fall buying season will be brisk; if late — underwhelming. If a color NeXT is demonstrated by August — and upgrades for existing machines are available at less-than-heart-stopping prices — look for the orders to start piling up. Informix will announce a NeXT version of *WINGZ*.

  The new version of *4D* will offer not only more speed and programming power, but ACIUS (or someone else) will offer a utility which will directly read *dBase* files.

  The release of *QuickDraw2* will create a leapfrogging of visual display competition between itself and *Display PostScript*, similar to what has happened between *Illustrator* and *FreeHand*.

Apple will acquire a company that is a major player in an area completely unrelated to Apple's current perceived product directions.

And finally, I predict that a year from now, everyone will predict the **following** year to be the Year of the LON (Local Operating Network).

- **Stephen Howard** (BMUG Board member). In 1989, Macintosh users, like their PC using counterparts, will unfortunately need to understand the terms *megahertz* and *wait-states.*
- **David Morgenstern** (BMUG Cheerleader).

  A disgruntled Apple programmer will write a time bomb into the new System software. It will not cause any data loss, but will change any iteration of "Apple" into "As-h-le."

  Todd Rundgren's alternative Mac operating system will be the first of a long list of "Celebrity Finders." Expect announcements from Harry Anderson (Night Court), Peter Jennings (ABC News) and Joan Collins (you need to ask?).

  John Sculley will leave Apple for a post in the Bush league. He will bend over backwards to appear fair, so computer contracts (low bids all) will go to 386 clones. He will continue to use the Mac II "brought from home."

  New input/output gizmos sold in kits will bring unthought of power to the home user. Truth detecting vocal-stress analysis kits will lead many Mac households to divorce court. The *Home Hemotology Lab*, *MacPerm*, a hair chemistry set, and *Mac StudFinder* will be money makers. *Tattoo Artist,* an automated color-output device and *Buzz Me Again, Pavlov*, a habit-breaking aversion-therapy set (does that name ring a bell?), will come up short in the marketplace. The Department of Defense will pull the rug out from *StarWars Mac*, a flying insect destroying system.

  The computer industry will rock with the revelations that a predominantly PC software publisher had been writing and distributing Macintosh viruses. Those involved will claim that the viruses were "programming exercises" in preparation for work on a new Mac spreadsheet.

I Wish I Woz at BMUG, Hoo-Ray

Last month we started a list of the past year's best of the worst — and we didn't have space for everything. Kudos and menudos the sequel:

- **Best SoftWare Guilt Trip.** *The Manhole* by Activision/Mediagenic. So you spent the family's next four year's vacation money on the Mac? You'll make it up to "the littlest Mac user, " by buying *The Manhole*, a fantastic non-violent educational game (if you can sell that to your family and you're not in sales — it's career change time). The little kids **love** it, but there's a problem. The stacks that make up the game total almost five megabytes of precious hard-disk space. That's almost 25% of your 20 meg drive. There's no good solution other than mortgaging another year's vacation and buying a hard-disk just for the kids' toys.

***The ManHole's* out in CD-ROM now. Is your guilt (and pocketbook) up for a real show of love? A CD drive and the fantastic new expanded version for the little angel. Daddy and Mommy can use the drive too, of course. The real good news is that Apple's marketing department has finally figured out that the CD drive is way too expensive. Word is that the price may come down to $800. Then you can afford the BMUG PD-ROM!**

- **Best Divide and Conquer.** *Silver Server* Utilities by LaCie, Ltd. LaCie makes the Cirrus line of hard-disks. Although the Cirrus is advertised as "Performance without compromise, " the best reason to buy the drive has been the bundled utility programs, called *Silver Server*. The *SilverLining* program, is considered one of the better SCSI formatters around and

available only to Cirrus owners. Finally LaCie got smart and now sells the software separately (for a hefty $150).

- **Best BMUG ßeta Demonstration.** *Steve Jobs*, NeXT, Inc. What a fantastic show Jobs orchestrated at a BMUG meeting in November — the first public demonstration of the NeXT computer. Although thoroughly scripted and packaged, it came out fresh and informative. It even survived an audio-visual presentation (slides and video) which usually turn the technically hungry BMUG crowd ugly. The referees at a heavyweight title fight customarily give the benefit of the doubt to the current champ.

  This prize often goes to Guy Kawasaki, when he shows the new features that will be incorporated into the next version of the *4th Dimension* database program. He gives very clever funny demo, filled with inside jokes and anecdotes.

- **Best Software Closet Skeleton.** *Modern Jazz* not by Lotus. Lotus finally stopped flushing money down the toilet and yanked the release of *Modern Jazz*. It was **very** close to release and some poor author had even written a book on the program. Lotus hasn't learned anything from its Mac fiascos, since they're reportedly banking their future on a Mac version of *1-2-3*.

What's in a Name?

Last episode, as I was mentioning that the word *Floptical*™ is owned by drives made by Insite Periferals, I made another mistake. The NeXT non-floptical drive is not made by Toshiba, but Canon. I knew it was one of the giant Japanese dumpers.

BMUG NewsTip

Have you been saving your pennies, hoping to buy some brand new 4 meg chips for your Mac? We've got some bad news - they don't fit!

When Toshiba showed the prototypes to Apple a year or two ago, they fit.

The chips must have been hitting steroids, because now they're "too fat" to fit in a Mac (even a Mac II). Start saving for a machine that will fit the chips

New Year's Resolution

It was finals time last month. Many unhappy people called up the BMUG HelpLine. Some of them left the HelpLine still sad, because it's hard to save what you don't **Save**.

Most of the time the call goes something like this: "I tried to print my document. The little watch cursor's on the screen, but nothing is happening. I've only been working for a couple of hours and haven't saved at all. Can I get back my work?" **Sorry.**

The Mac screen is so sharp and clear that our over-taxed brain is fooled. We think we're typing away on a solid, 3-D piece of paper. There are no ideas, words, or pages until you **Save** your work. Here are some time and data saving suggestions:

- **Save often.** You can't **Save** often enough. I try to **Save** every few minutes or sentences. Some people claim this ruins the flow of their thoughts — maybe so, but so will losing all your work!

  I'm allergic to many things in the world and unconsciously scratch, I guess, so my hands leave the keyboard. I Save and scratch my way though the document. If you can't remember to Save, perhaps an auto-saving desk accessory like *Savior+* (BMUG *DA 1* disk) may be for you.

Saving often is not always the best thing to to your data. Certain programs save things in funny ways. Your document can act like a snowball heading down a hill, gathering byte after byte, until it's a monster! A Save As.. a different file name can usually fix this problem.

The best and most stable auto-saving product is *AutoSave II*. This is a commercial CDEV that grew from the shareware *AutoSave DA*. It sends a series of key strokes, usually Command-S, **which will save your work in most programs.**

A good feature of the program is its exclusion list. There are many programs

you wouldn't want to save frequently. Some are drawing programs, where a save at the wrong moment would solidify a mistake. Some programs don't like *AutoSave II* and will crash. Database programs usually save themselves, so *AutoSave* is redundant. *AutoSave* is like your kitchen timer, it counts and goes off, no matter where you are in the house.

***AutoSave* will force you to alter some of your computing practices. If you use Stationary documents, *AutoSave* may add unwanted changes, so** Save As... **quickly to avoid trouble.**

- **Always Save before you Print.** Printing is a time when a lot of things can go wrong. Memory problems, disk space requirements, or lots of other baddies can bring you grief. Some programs allow you to stop printing by holding down the **Command key** and pressing the **period** (.).
- **Do a Save-As for important work.** If you're doing crucial and irreplaceable work on a deadline — think paranoid. Every once and a while **Save As...** to a floppy. If your hard-disk dies in the middle of the project, you can continue immediately with the floppy.

  You think I'm nuts about this? The power went out on our side of the hill as I wrote this (for real, I swear) and I only lost two sentences. Would you have been so lucky?

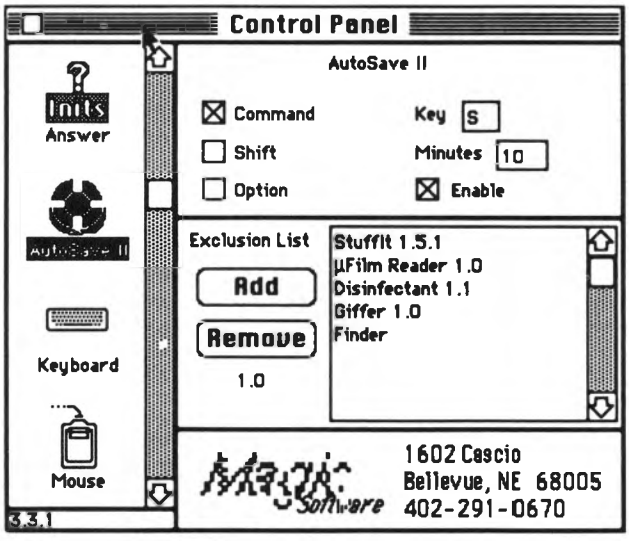


Figure ?

BugMaster

Have you ever found a bug, or an error in Apple hardware, software, or documentation? If you haven't then you've been the luckiest Mac user alive. Five years after the introduction of the Mac, Apple has decided they'd like to hear about bugs.

They've developed a program that connects us to their "Bug Report Center, " called *Outside Bug Reporter*. The data is fed into a bug database for the Software Quality Assurance folks. There are plenty of bugs for everybody. Request a copy from Craig Polson, Bug Report Center, Apple Computer, Inc., 10500 N. De Anza Blvd., M/S 27-AN, Cupertino, CA 95104.

Virus Warning: Some new viruses have been floating around the past couple of weeks. There are a couple of new strains of the *nVIR* virus. One is called *Hpat*, since it installs *Hpat* resources in your system, instead of *nVIR*.

INIT29 is a new virus that screws around with applications and adds an ID 29 to all other files. This virus "features" instant infection upon disk insertion — clever, but very bad to you and me.

Now that viruses are big business, many of the freeware and shareware anti-virus programs are going for the green in the over-the-counter market. We're talking $100 + for these new versions.

Jeffrey Shulman's *VirusDetective* DA is still shareware. A new version (2.0) will be out soon (BMUG Utilities 8 disk). Support your shareware authors!

February

Welcome to the ninth BMUG column. We've BMUG Macworld Expo reports and lots of other SuperBowlish stuff. Get ready to yell, scream and throw beer cans around the room — but in the opposite direction of your Mac.

The BMUG Bowl

The weekly BMUG main meeting is not for the touch or tag

marketing gamers. It's a rough and tumble game played on the slippery vinyl floors of the Physical Sciences Lecture Hall. The play's not dead until the whistle blows, or the marketing hype hits the turf.

BMUG Exposion — Bang!

The BMUG booth was the hit of Moscone Center with our typical smarts, charm and great Expo bargains. The decorations included a "lucky" 13-foot high foamcore board Campanile bell-tower, designed by Bill Woodcock, one of BMUG's designers in residence. We put it up on a table to give it an extra few feet. It was attached to the table by faith and gravity. This force of nature seems to lose its effectiveness around BMUGers — there's always some important disk or document on the BMUG office floor. However, the tower remained upright throughout the show.

Our booth also became a media event, when our *Safe Computing* promotion got proper word-of-mouth. BMUG gave out a free condom with every purchase of our anti-viral *Utilities 8* disk. There may have been some confusion with the condom-inexperienced Mac user — our Gold Coin condom looked like a chocolate coin candy.

Bill also designed the BMUG T-shirt. The front shows a monstrous blue and gold floppy disk (for some unknown reason our *Graphics 8* disk) with *BMUG* in big black letters. The verso shows the other side of the disk (now you'll be able to read the fine print), with the words *The Big Mac Users Group*. I have no idea what that means.

The BMUG party (co-sponsored by the Apple User Group Connection, TechAlliance Co-op, Micronetworked Apple Users Group, and the BCS Mac Group) was also a kick. It was held at the Circle Gallery, designed by Frank Lloyd Wright. It was packed with fine art and people.

BMUG's thanks go out to all the wonderful booth volunteers that pulled disks, ran the cash register, and helped to answer countless questions. Our thanks also go out to everyone that decided to support BMUG with membership at the Expo.

In a spirit of incredible fairness and self-assurance, I bring some of the observations of Ken Gruberman of Loz Angelez. It was his first Expo, so perhaps that explains his wrong-thinking bum attitudes expressed in the February *macvalley Voice* (Burbank, CA).

"User groups were represented, of course. Most notable was BCS, a sophisticated bunch of folks who were giving out CD-ROMs of their PD Library! Nice. They were great to talk to. On the other end of the spectrum was BMUG who sported a booth that looked like it was decorated for $1.98 by emigres from the 'Pee-Wee's Playhouse' team. Different strokes, I guess. They made more noise than BCS, too."

Ken must have been suffering from Mac-Yuppie East Coast Envy Syndrome. I'll take the Pee-Wee Herman comments as a compliment. [And the CD's that BCS was giving away were there ill-fated, virus-infected ones (with a hole drilled through for safety)!] The monochromatic booth with it's three-D windowing environment had a David Hockney-visits-BMUG kinda feel to it. Take two Midol and increase your fiber intake.

Exponential Musings

The Expo was held at two locations, Moscone Center and Brooks Hall. Supposedly more than 60, 000 people ran around trying to grab their share of promotional buttons, posters, bags and pens piled high on vendor's tables.

Moscone was filled with huge over-designed superbooths, left over from the last World's Fair. Some designers seem to have taken on the challenge of describing *networking* or *relational database* in a sculptural booth concept. What color is a network environment?

Brooks Hall had more of the flavor of the early Macworld Expos, "old fashioned and friendlier" were often heard comparisons. There were lots of interesting startup companies there too, with more bucks spent on the product, than the packaging.

Some of the hot products BMUGers liked were:

- A couple of companies were showing

magneto-optical drives. These drives use special 600+ megabyte optical disks that can be used over and over. The drive mechanisms are made by Ricoh in Japan (where else?). Start saving — they'll cost around $4 - 6, 000.

- Color scanners seem to be here to stay. The silly scan-for-each-color contraptions are gone, replaced by single pass 24-bit color flatbeds. The price is still high, around $5 - 6, 000.
- *MultiClip* by Olduvai is a multi-use product. It replaces the *Clipboard*, *Scrapbook*, and the *Puzzle*. Each picture or text put in *MultiClip* gets a little tile and number. You move them around just like the *Puzzle DA*. I'm working **click**, honest, **click**.
- Kennect Technology, formed by some of the guys that developed the Apple *SuperDrive* (the FDHD), have come out with a gizmo, *Rapport,* that fits on a 512E, Plus, or SE external drive port. It allows your internal drive to read MS-DOS formatted floppies. An 800K external drive plugged into the box will let you read and write Mac and MS-DOS 1.2 Mbyte floppies. This is for around $300.

An additional $500 gives you the *Drive 2.4*, which allows you to make a high-density floppy hold 2.4 Mbytes. The *Drive 2.4* needs the Rapport box to work. Be careful — with this combination you'll have no excuse for not backing up your hard- disk.

Exporatory Surgery

Here's some Expo stuff you'll not read anywhere else (no snide remarks, buddy):

- **The Rose By Any Other Name Booth.** Orchid Technologies, maker of SE color cards, was showing their *MacFax* fax-modem. Or were they?

The box on the table looked like a fax-modem. It had lights that blinked on and off like a fax-modem. But it was really only a toy-modem.

If you looked carefully, you'd see that the **receive data** light blinked when the Mac was turned off. The demonstration was really using a regular plain vanilla modem — under the table.

This puppet fax-modem was spotted by someone that tests Apple's modems and by a BMUG member that writes telecommunication software. Orchid says, "The *MacFax* is not shipping yet."

- **The Gunga Din Booth.** John Sculley's Expo keynote address included a demonstration. He showed a HyperCard stack that lets you use a 12-inch videodisk machine. I seem to remember seeing this bit on TV last year, but here it was **live**.

The Apple CEO made a boo-boo and then started to fish around frantically. Finally Steve Maler, one of Apple's HyperCard group, saved the day. Perhaps John was worrying about keeping the lid on the bad quarterly report due out the week after Expo?

- **The Vapor Trail Booth.** The world of networking hard/software is not for the faint of heart, or anyone without an AstroTurf-lined pocketbook. *DaynaMail* by Dayna Communications requires a PC server running the Dayna accelerator card. That gives you *DaynaTalk*, a faster *AppleTalk*.

The problem is that both the mail program and the PC card are vapor (computer speak for *no product yet)*. Does vapor get more solid, or less when multiplied by two?

The Hayes marketing people had a good line on their own vapor updates for *InterBridge*, one of the first Mac products that linked networks together. The *InterBridge* line was, "Lots of changes are planned for the *InterBridge*, but I can't tell you about them." Now is it **you won't** tell us, or **you can't** tell us ('cause you don't know anything either, dummy)?

- **Business Booth.** Now that the Mac is no longer a toy and has proven itself to be a **real** business computer, the software marketing departments get to run **real** show booths. Business people have lots of special needs at shows that require an extra special touch.

Many booths at the Moscone Center

(closer to the downtown business center) featured *booth bimbos*, or *marketing mannikins*. Tight skirts, lots of leg and blond hair provide the proper business ambiance for spread-sheet comparison.

This is a crazy backwards situation to anyone involved in the Macintosh world for more than a year or two. More women, or a greater percentage of women, are involved (and have been involved) in real product development and marketing decisions for the Mac, than for MS-DOS products. Many female product managers and representatives complained they were ignored by customers "looking for the boss." Boo!

- **The Don't Worry, Be Happy Booth.** The marketing department heads seem to have been pushing the *less is more* philosophy on their demonstration teams. Basic questions were answered with either, "Oh, I'm not a technical person, " or, "oh, you don't want to bother with that." The presenter would smile, pat us on the head, and plow on. "Let me show you this feature..."

Beating the Expo Flu

One of the great things about the Macworld Expo is the chance to pick things up — pens, demo-disks and the flu. The weeks before and after the show are prime human and computer infection times. Be careful.

Most upper-respiratory bugs are spread by contact. The person with the cold has the bugs on their hands. They touch and use objects that others contact. The virus attacks the new victim when they rub their eyes, pick their nose, or chew their nails.

If many people share a keyboard, in an office or laser-parlor, this may be a concern. It's hard to clean a keyboard of viruses, so the best prevention is to wash your hands often while working.

Computer viruses are also passed around during Expo week. Many booths at the show were infected by common viruses that all shareware detectors pick up. Do you think that people running the booths are checking for infection? Some of them barely know the Macintosh, let alone Mac viruses!

Check out any disk you brought back from the Expo, especially demo programs. I know demo disks handed out by two small one-person outfits were infected with *nVIR*.

The Joys of New Parenthood

Whenever Apple puts out a new version of its operating system software everyone waits to see which program will have trouble, or break. The same holds true with new hardware.

The new SE/30 is a dream-boat to us small box lovers. But don't count on using your old serial Apple HD20 drive. It is not compatible with the new machine. If you insist on using that old drive, you might check out the MacBottom *WSI Conversion Kit*. It turns your serial HD20 into a SCSI drive (for $380+).

The SE/30 also comes with the fancy 68882 math co-processor chip. That will really get your spreadsheet moving, right? Depends on the product.

Excel 1.5 doesn't "know" about the new models of the Mac (Mac IIx, SE/30) that sport the math chip. Excel's ability to use the chip was *hard-coded* for the plain Mac II only. The SE/30 press release says, "This dramatically improves the performance of some spreadsheets ..." But not the most popular brand.

March

Welcome to the tenth BMUG column. Get out the mops, brooms and brushes, 'cause it's cleanup time at BMUG. There's a byte of news, views and no time for a snooze.

The BMUG Bowl

There's plenty of fore-court action and slam-dunks at the weekly BMUG meeting. It's a tough game at the Physical Sciences Lecture Arena, with more than a few fouls called. Go team, go!

System Insanity — Episode 1.0

Apple came out with a new system software revision during the Expo, *System 6.0.3*. The press release couldn't decide whether to call the stuff "Systems Software, " or "System Software." They covered the bases in their press release and went with both.

The marketing department had additional troubles with this baby. This update isn't much of an update. Hardly any of the system files and utilities were changed: a revisionary look into the present.

There were some changes to the *System* file, in the Time Manager routines, AppleTalk driver, and the FDHD (SuperDrive) driver software. All this stuff helps your SE/30 and other '030 boards work better. The *Apple File Exchange* utility application and *MultiFinder* were also updated.

Apple is telling users **not** to bother with the new version unless you're running an SE/30, or Mac IIx. Unlike our volunteers manning the BMUG HelpLine, Apple is not used to telling users to avoid its system software updates. Our usual line after a new *System* release is to wait and see what happens. There's no reason to avoid 6.0.3, if you want to use it. It's the spittin' image of its 6.0.2 cousin.

Apple did make a big deal about its "change in release *strategy* for Macintosh System Software." Instead of recommending that all users upgrade to each new version of the system software, Apple will "classify" releases into two categories, ***product support*** and ***major system*** releases.

Product support releases will be for specific CPUs (this is the Year of the CPU, remember?), peripherals and network products. Apple says it will "specify exactly who should be using the new software..." By name or hair color, maybe — blonds only are allowed to use 6.xx.

Major system releases will "contain features beneficial to all users." Perhaps we might want to ask Apple about the work it has done in the past couple of years for users of 512K Macintoshes. Silence is platinum.

Apple had a chart about a year or two ago with its recommendations for system software. It used happy faces for acceptable combinations and frowning or doubtful faces for the rest. There was not the myriad hardware combinations to keep track of then. Now there are eight or nine different machines, memory configurations, monitors, boards and networking products in the equation. Have a nice data.

System Insanity — Episode 1.0.1

The Macintosh system software numbering system remains a mess and the new release strategy will make things worse. A frequent question asked of BMUG HelpLine callers is "what version of the *System* and *Finder* are you using?" It's sometimes hard to tell on earlier sets. The latest 6.0 systems are helpful because they read out both of the version resources in the **Get Info** box.

There are two version resources for Macintosh programs (everything Mac-ish has two sides, *Resources*, or stuff the program or file needs for itself, and *Data*, the stuff you want the program to work on for example), vers ID=1 and vers ID=2. Version ID=2 tells you which system set the program goes with. ID=1 tells you the "real" version number of the software, usually a long string of numbers, decimals and sometimes letters.

It's important to know the version numbers because of software incompatibility problems. Each major system revision brings a pile of extra work for your friendly neighborhood programmer. He/She/It has to bring their software into agreement with the way the new system operates. This isn't so bad if it's a game, but your database program is a different story.

A quick look at the contents of the four disk system set reveals 18 different version ID=1 numbers. There's everything from 1.0 to 6.1! These numbers aren't usually a problem to users — until they start using or changing their *System*.

Version ambiguity strikes in the *Installer* program. In among the choices for installation are *AppleShare Workstation 2.0.1* and *LaserWriter 5.2*. Can those be right? The *Installer* says it's version 2.6.1, but I'm using *System 6.0.3*. It's the same problem in the Control Devices (CDEVs) accessed through the *Control Panel* DA. Who's on first? What's on 2.6.2?

Small System Bits

- Tempers are flying in Apple Development Land. It's all about how to do system-wide macros, with a scripting language. This would let Mac people do the "good" things PC-DOS

does, like batch files. Much of this can already be done by CE Software's *QuicKeys*, but that isn't an Apple solution.

The squabble is over how to write commands that all programs will use. Some folks want to use the most familiar language to Mac users — *HyperTalk*. Others want to use a new set of commands, some sort of AppleScript.

- Some companies will go to any lengths to ruin great betaware (unreleased software). The latest casualty is *Wingz* by Infomix. After years of hype (and great Macworld Expo booths), it's finally out of development. It hit the stands in late February at around $280.

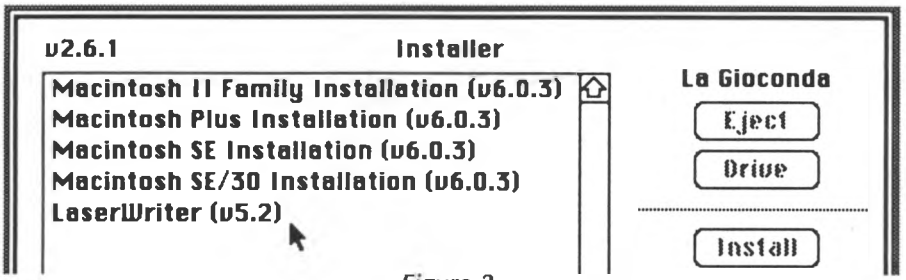


Figure 2

When Folk Heroes Collide

The BMUG meeting usually has a number of traditional questions and rituals. The price of Apple stock is always given at the beginning of the question and answer period. There is always a printer question and nowdays a virus question. This year has seen the rise of the Apple legal question. The latest (as I write) is the suit filed by the Apple Corps Ltd., London, that charges that Apple Computer violated agreements on the use of the Apple trademark.

The Beatles sue the Boys in the Garage? British versus American cultural mythology? Sorry folks, it's the just the Lawyers again.

Apple's been riding a bit high for the past year or so. They've been smug, autocratic and arrogant. Apple somehow thought they were exempt from the Law of Supply and Demand. They couldn't imagine that if prices went up, users would look to lower priced non-Apple solutions!

The stock analysts are now downgrading their stock. They say that Apple's recent product announcements (the SE/30) undercut their existing products (Mac II and IIx) and Apple is confused about what customers want. Managers are running around pointing fingers for the chip buying fiasco, low 2nd-quarter earnings, price hikes, and price reductions. It's Eye of the Tiger time in Cupertino town.

System Spring Cleaning

All the talk about new system software put me in a mood for spring cleaning my hard-disk. Here are some things to think about when swinging the dustmop.

- Always use the *Installer* program when you update your *System*. The days of drag and roses are gone! The "usual way" is to start up from the new *System Tools* disk and run the *Installer* program. Choose your flavor of Mac and hit the install button. If you hold down the **Command** and **Option** keys while hitting the **Quit** button, your Mac will automatically restart.
- Make a backup of your hard-disk before you install the new system software. This is your insurance policy in case there's trouble with the new system and your old software. If you can't wait that long, at least archive your old system folder as collision coverage.
- There are problems with some of the system software. The major offenders are *Easy Access*, a utility to help people that have trouble using a mouse, *CloseView*, a CDEV for visually handicapped users, and *MacroMaker*, the current Apple macro recording software. The two aids for special needs should only be used by the users in need — they can be accidentally triggered and are very confusing to the unsuspecting. *MacroMaker* conflicts with many more useful CDEVs and Inits.
- Look though your folders and files. There should be only one *System* file on your hard-disk. Use the *Find File* DA just to be sure. People that recover

damaged disks onto their own can forget the extra *System*, or two in the Recovered folders gathering dust on the DeskTop.

I always find at least five or six megabytes worth of old junk on my hard-disk when I really look. If you haven't used an application or datafile in six months, or a year, it can go on a floppy disk.

- Take a look at your hard-disk with a program that can "see" invisible files, like *DiskTools*, or *ResEdit*. You may have come in contact with the new *DeskTop Manager* software. It will leave a couple of files named DeskTop DB and DeskTop DF that may run a couple of kilobytes. If you're not using *DeskTop Manager* deliberately, you don't want them. Bye-bye.

Shareware Spotlight

The most beautiful shareware screen saver around is the CDEV, *Moire* (pronounced "mwahr"). It is by the Australian programmer, John Lim. It sends line shapes, pentagrams, rectangles, hourglasses and many more flowing around the monitor. It's wonderful in black and white and a knockout in color.

Moire also turns off your keyboard when it comes on. This is a real lifesaver for people with young children and Mac-loving cats.

It comes with a detailed manual and discussion of screen saving. John also includes a conversion program that turns the CDEV into an Init for people using *System 3.2*, or who use floppies. Pretty classy for a $10 shareware fee. Support Shareware Authors — Send in your $$$.

The latest version of Moire is on BMUG *Update Disk 22*.

April

Welcome to the BMUG column. It's MS month at BMUG — no that doesn't stand for "multiple sclerosis." That's MS, for *Microsoft*, wise guy.

The BMUG Bowl

The weekly BMUG meeting is a weekly playoff game. There are plenty of controversial calls and pressure situations. The blood pumps and an outside shot is attempted. We've got drives, slipped disks and basket cases.

None of Your BeesWax

Apple came out with a new Mac II in March, the Mac IIcx. Everyone thinks this will be the big selling Mac II model — get your order in soon. It's really a very naughty name for a computer. If you speak in a Texas drawl it comes out, *Mac To Sex*. Dream on!

The best part of the IIcx announcement was the poster put out by the Apple Information Protection Group. It went out to all Apple employees on announcement day.

The poster read "Today at 10 gala events around the globe, Apple unveils the long-awaited Macintosh IIcx. Too bad today isn't the first time it's been seen in public." Below that was the MacWeek magazine cover from weeks before that showed the new machine.

One line said, "Fortunately, there as many ways to protect information as there are types of information that need protecting." The

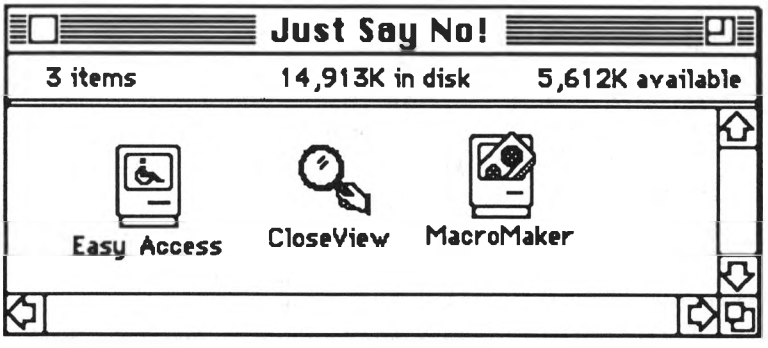


Figure 3

poster only mentioned one way — good judgement. Good luck.

The Information protection folks motto is "Because what we know is *our* business." Their italics.

Oh Where Have You Gone, Charming Billy?

Last month we announced that Bill Gates, boss of Microsoft Corporation, would be speaking at a BMUG meeting. Bill's office called and canceled his appearance — "he's so busy." He won't be available until sometime in late 1990. This is his third cancellation (he was supposed to be here months ago) and everyone at the BMUG office was disappointed. Chicken!

He's obviously heard about our intolerance for marketing hyperbole. The BMUG crowd knows the Macintosh interface, programs, and programming. Microsoft has been in the Mac marketplace since the beginning — boy, have we got questions saved up!

Bill doesn't seem to back out of visits to user groups in Boston (BCS), or Washington (WAPS). He prefers to speak at groups that ask easy questions, like how it feels to have won the real-time software Lotto. The East Coast computer yuppie audiences go for "will all the thirtysomething billionaires raise their hands..."

Here are some of the questions that would have been asked at that April meeting.

Under the Microsoft-Scope

- How long can Microsoft avoid restraint of trade lawsuits with its early product announcements? This question comes from a recent suit against Lotus by Mosaic Software, makers of a spreadsheet called *Twin Level 3*. Lotus' *Release 3* was announced almost a year before the product was finally released, allegedly interfering with the fair spreadsheet marketplace. There are precedents from the 1960's with IBM.

Incredibly early product announcements are standard in the computer industry. Microsoft has done their part with early announcements and late releases — two sides of the same coin. If Mosaic wins its suit perhaps this situation will improve. Of course this might pressure companies into premature release of their software — like the infamous bug infested Microsoft *Word 3.0*?

- What is your response to continuing allegations of the inelegance of Microsoft products? Has Microsoft focused too much on the machine/programming needs of its software and ignored the human/aesthetic needs of its users?

There is a continuing battle over the feel of Microsoft programs. Great programming, like great architecture, satisfies the users work and spiritual needs. Software can be powerful and beautiful — fun to use. Microsoft is rarely on the receiving end of a beauty prize, but they're not one the companies eating sour grapes, either.

- Compare the *Presentation Manager* software for the PC with the Mac interface. Is one better than the other? How would you improve each one?

The Mac operating system is constantly evolving, although it's hard to tell from some of the awful updates we've had to suffer through lately. Soon we'll have a column of system wishes.

Presentation Manager is the graphics interface of the OS/2 system Microsoft is writing for the new IBM PS/2 line of computers. The poor product managers, in charge of writing the interface, were sworn to avoid any contact with the Mac. Gates has called *Presentation Manager* "cleaner." It must do windows.

Say the Word

- Do you consider *Word 4.0's* violations of Apple's guidelines for popup menus constructive extensions to the Mac interface? Need your memory refreshed? Here are the offenders:

Menus are supposed to be in Chicago font — *Word 4.0's* are in something else. I font to be loved by you, just you and nobody else...

Popup menus are supposed to pop out when the cursor hits the selection (the word and the space around the word flip black/white). Early implementations of popup

menus had little arrows on the sides of items. When the arrow was touched by the cursor, the next hierarchy was revealed. *Word 4.0* is still old fashioned about arrows.

Even better is an editable field that extends from the side of the arrow in the menu. You can type a request in this field in the popup menu. My menus can do more than your menus, Nyaaah.

If this sounds a little confused and confusing — you're right! All of this *Word 4.0* stuff was written before the release of the product.

I'm not the most objective person when it comes to any version of MS *Word*. You might want to read my article, "In the Beginning was the *Word* — the real story behind the Microsoft *Word* fiasco," in the Fall/Winter 87 BMUG Newsletter. I avoided any contamination, or any real-use knowledge of the product and relied on third-person descriptions from beta testers.

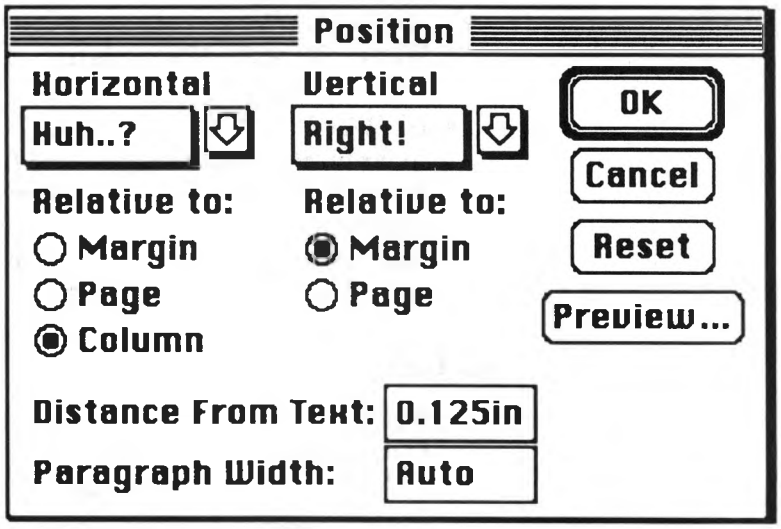
Here's a screen dump that shows the arrows and the editable box/field. I couldn't get a screen dump of the little menu that pops out of the box. I think that Huh? should be a standard menu item anyway.

If you use the screen shooting DA, *MenuShot*, watch out for trouble with check box dialogs like the one above. *MenuShot* has a "feature" that brings back the DA after a timed screen shot, so you can shoot another. Unfortunately when most dialogs are on the screen the DA menu isn't supported. You can click to your hearts content, but nothing works. Oooops. [sidebar: *MenuShot 1.3* (on BMUG *DA 7* disk) I•A•C•S Software, 6413 Wyngate Drive, Springfield, VA. 22152. Shareware $15]

I used Claris' *MacWrite II* to prepare this compilation of my articles. It will be a fine product, when they fix some bugs — I crashed four or five times. Claris should be commended for allowing users that missed *Microsoft Word 3.0*, to have the opportunity to experience *word processing angst*.

Some problems must be my "fault," running on a 512KE with a Dove 1-Meg. memory upgrade. Almost all Mac development is done on multi-Meg. Mac IIs nowadays and there's a blame-the-victim mindset in the programming community.

When the program slows down to a crawl and keeps trying to reflow text, you're heading for trouble. I'd start seeing weird repetitions of text in the clipboard and undo buffer mixing together on the bottom of the screen. Then the document was smashed.



I save often, so the damage was slight. I found if I brought my work, even a smashed one, into another document using the Insert File command, problems were solved.

Claris — Wasn't that the Mummy's brother's name? "I'll have a cafe au lait and a tanna leaf tea for my buddy." Keep trying guys and gals.

I'm alpha testing (the first stage of testing) a shareware word processor. It is a full-featured word processor, not a text editor, with rulers, tabs, boxes around paragraphs, color support, and lots more. If it's shareware it will come in around $25, however there's talk among the developers of going commercial at $50. A bargain at either price.

- You guaranteed that *Word 4.0* would be totally free of bugs on release. Do you regret making this pledge? Can any piece of software be free of bugs? What does Microsoft consider a bug?

This was a problem with some of the bugs in *Word 3.0* — the programmers didn't consider printing and formatting problems bugs. *Real bugs* were code errors that crashed the program.

Does this bug-free commitment include the *Word* version seen running under A/UX (the Apple version of the UNIX computer language) at the UniForum show a month or two ago? When will other MS products run under A/UX?

- Is *Word 4.0* Script Manager compatible? This refers to the new 6.0 System routines that handle text. Non-English systems can use this part of Mac system software. Bill says that more than 40% of Microsoft income comes from foreign sales.

As Time Goes By

- Where is the *MS Word* specifically for Windows (years in the works)? Where is MS Mail 2.0 (due out in October)?
- Why does Microsoft *Excel* still have to load first in *MultiFinder* and why can it see only one megabyte of RAM — after *MultiFinder* has been out for two years? When will MS abandon its current software development system?

These are two complimentary questions. Microsoft uses its own brand of UNIX on some DEC Vax computers to write software. This process produces P-Code that creates the one megabyte RAM restrictions. Holy arcane coding, Batman!

On the GatesWay

- How much longer can you keep such an active interest in the day-to-day operation of Microsoft? If you weren't "doing" Microsoft, what would you be doing? Beachcombing?
- Will you be joining other celebrity racing drivers like Paul Newman, Burt Reynolds, or Jose Canseco, in Grand Prix touring from Seattle to San Francisco? Bill's current flame lives in San Francisco, so he gets to stretch the legs of his hot sports cars on the weekends. Zoooooom.

Now was that so bad? Bill, the light on the front porch is lit and the BMUG door is always open for you.

System Spring Cleaning

When people call the BMUG HelpLine with a printing problem they're interrogated with a long list of questions about the *Chooser*, **Page Setup** and Printer Drivers. Here are some things to check while waiting for the ambulance.

- Is the cable plugged in? This sounds obvious, but is an all too common snag. Most programs can't tell the difference between a confused printer and no printer. People that move their Macs around frequently don't tighten the cable's screws. Check the cable connection on the printer too.

  You might want to check the cable if you're having trouble getting the SCSI hard drive to be recognized on the desktop. I spent a long while at the BMUG office one afternoon, swearing all getout at a 45 Mbyte removable media drive. A smart young whip comes in, looks around the back (hey, it was a Mac II and I'd have had to go all the way around the desk to see the connection) and you know the rest.

- Do you have more than one device running from the printer port? ThunderScanners and some other scanning devices use a box that switches between the scanner and the printer. It's easy to forget when it's jammed by your desk against the wall.
- If you're printing to an ImageWriter II, is the select switch light on? It's easy to forget it and easy to accidently tap it off, too. People that hand-feed paper do this all the time — usually when you're in a big hurry.

Shareware Spotlight

Do you use just one program? You set the startup to the spreadsheet and off you go. You're missing alot, Buddy.

There are hundreds of fun, little things you can add to your system to make life and your time in front of the Macintosh more stimulating and rich. Must everything be useful and productive?

I enjoy a small freeware Init (StartUp document) called *Earth*. Many people call it Earth-Apple, since its icon has both images. It turns the apple on the menu bar into a tiny rotating earth. It was written by Stefan Bilaniuk at Dartmouth.

Earth and a lots more are on BMUG Utilities 10.

May

Welcome to the BMUG column. It's a hard month at BMUG — hard disks, hardware and hard to live with. This is hardly the time to turn back, 'cause there's tips and flips ahead.

The Irregular Season

The weekly BMUG meeting usually includes an opening day event for some software program and it's developers. The peanut gallery waits for a botched infield play, so they can wave their Macintosh Technical notes and Human Interface Guidelines. Sometimes the problems are a little harder and unusual.

A while ago, a *HyperCard* sound stack still in development was being shown. The author of the stack couldn't get the speaker to work — the Mac II was silent. Everyone in the audience shouted out possible remedies, from HyperTalk programming to Control Panel settings, but nothing worked.

Finally, Phil Reese, BMUG's BBS manager, shouts, "I know what it is!" While "cleaning" the machine the night before, he had forgotten to reconnect the speaker. Not every problem is software in origin, so it pays to check the material side of things.

Phil Reese is hoping to have his thesis out of ßeta development and into the hands of his faculty advisors in August. He does a incredible amount of vital work for BMUG, while preserving a cheerful attitude. Amazing!

No Macs Land

The 14th West Coast Computer Faire was held in the middle of March. For Macintosh people it might as well have been called the *Waste Coast Fair*. There were plenty of PC clones and Atari booths, but only BMUG was in the trenches for the Mac.

The BMUG booth was visited by folks still flying high from the extravagant January Macworld Expo. Some had traveled from Los Angeles, Fresno and Sacramento, hoping for a cheap hard disk or RAM upgrade. The cupboard was bare.

The Mac was well represented in many of the conferences. The *HyperCard* demonstrations were well attended and still a mystery to the uninitiated. A combative PC user sneered at Amanda Goodenough, the talented hyper-author of AmandaStories, saying, "Do you mean all *HyperCard* is good for is creating your own world?" Stunned, Amanda replied, "That's what I do, " wondering why anyone would want anything else!

Forget those Lotus-eating, productivity bums, Amanda. Inigo, the hyper-cat, will take care of them!

HyperCard is two years old and people still can't figure it out. We can excuse the bozos at the West Coast Computer Faire. They are poor PC-clone using nincompoops, happy with any strange looking hypertext application.

Is there any defense for a nationally syndicated computer journalist (bearing an almost 99.99% resemblance to Bob Schwabach of Philadelphia) to call *HyperCard*, "the little database that comes with the Macintosh?" There is none!

I feel for Amanda Goodenough. She's in a double decker spot with her brilliant creations, Inigo and the Friendly Camel.

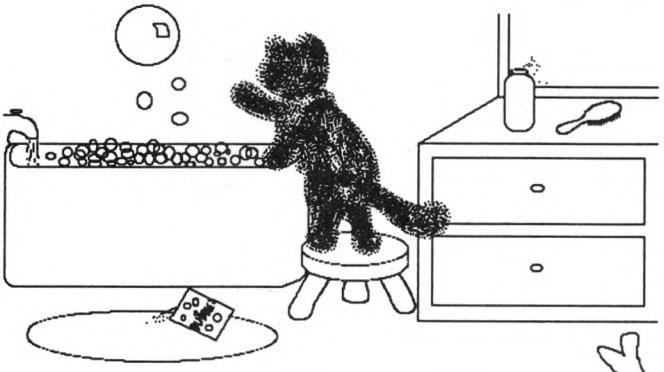
What is the hardest instrument to play (in a classical manner)? It's not the French horn, nor the violin. It's the human voice.

The voice is always changing. It's different every day. It is controlled by your

mind and emotions. Unfortunately for singers, everybody has one. It's the same with the Macintosh — we all got *HyperCard.*

We all sing in the shower (or in the BMUG office bathroom, which has similar good acoustics), so it's easy for us to discount the difficulties of beautiful singing. The old adage is true: familiarity breeds contempt.

People look at her *HyperCard* character stories and hurl themselves into



ClicheLand, with a "I could do that." I double dare yuh, Buddy. It is very challenging to create simple, sweet characters and stories that fill readers (or users) with joy. It is even harder to achieve this artistry on the computer screen.

Shareware AmandaStories are on BMUG Hyper Games disks, 1 and 5. Further adventures are now commercially distributed by MediaGenics

Getting people to come up with the scratch is the second side of this coin. It's hard to get anyone to come across with the bucks for the utility programs they "need," let alone a hypermedia experience for their kids.

Parents often try to justify their Mac obsession by buying "useful software," mathematics and language skill builders, for their children. These programs are digital castor oil for the mind.

Amanda's stories are naive little adventures for young Mac children. Their goal is peace and pleasure. You might find a little Inigo is also good for the not so young Mac children.

Jazzmine Sings The Bluze

The BMUG meeting has buzzed for months about the corporate soap opera happening at Jasmine Technologies, Inc. of San Francisco. Executives are locked out of the company offices and they sue. President counter-sues claiming a corporate conspiracy. Clouds of suspicion cover two big Macintosh hardware players and their products. Move over *Dallas* and *Falcon Crest.*

Jasmine blew the lid off the Macintosh hard disk market a few years ago, with relatively low priced quality products. One or more of Jasmine's drives has been rated a *Choice Product* in the last four BMUG Newsletters.

Many months ago, Steve Costa, BMUG's technical director, criticized some hard disks that used Rodime Inc. (Boca Raton, FL, and Glasgow, Scotland) drive mechanisms, including Jasmine's. The guts of hard disks and

most other computer equipment are manufactured by a few big companies, and Rodime is one of them.

Steve was called all kinds of nasty names and was public enemy number one at Jasmine (how soon they forget). People on the BMUG and Jasmine bulletin boards swore Steve had a vendetta against Jasmine, since everyone knew that "Jasmine drives, old and new, are close to being infallible." The drives float on water, too?

Dennis Chang, President of Jasmine, now confirms Steve's judgement with his 25 million bucks lawsuit against Rodime. He claims that some ex-Jasmine executives and Rodime conspired to hurt Jasmine's sales and reputation by supplying bad disks. The executives hoped to force Chang out and take over the company. Jasmine says, "many of the disk drives supplied by Rodime were

defective and that this disrupted operations, delayed shipments and damaged [our] reputation."

Users of Jasmine/Rodime drives are left walking a tightrope without a safety net. The lawsuit makes it pretty unlikely that Rodime will be sending Jasmine replacement parts for bad drives soon. Pray your drive doesn't flake out until the mess is cleared up. Jasmine's technical support, formerly a well-run operation (although overworked), has lost many employees and is a big uncertainty.

With all these lawsuits, where will Jasmine get the cash to buy needed drives from other manufacturers? More importantly — will Jasmine have the extra $100, 000 to throw around for its annual party at San Francisco Macworld Expo time? Get ready for Cheetos and bean dip on paper plates.

There's some good news and bad news in this mess for some "lucky" users. Some of the Jasmine Direct Drive 20-megabyte drives used drive mechanisms manufactured by Miniscribe. These drives are more reliable than the Rodime disks. You don't need to open the case to check the manufacturer, however, since the Miniscribe sounds like a washing machine. If it's really loud, it's a Miniscribe. But will it do permanent press?

Here are a few (well maybe more than a few) of the BBS messages refered to in the article. Steve Costa and Thom Benge report that the accusations and blood flew thicker on the Jasmine board [which has crashed at this time, so we couldn't get to them].

```
Msg#:22301 *BMUG LOCAL*
01-17-89 12:17:48
From: CRAIG STEIN
 To: STEVE COSTA (Rcvd)
Subj: JASMINE DRIVES

I disagree with your comments
on the Jasmine DirectDrives.
They happen to be excellent
drives. I've had one for sev-
eral months and have had no
problems, such is the same
story for others I know who
have them. Jasmine hard drives
are one of the best, so there!

Msg#:22305 *BMUG LOCAL*
01-17-89 15:08:14
From: STEVE COSTA
 To: CRAIG STEIN
Subj: REPLY TO MSG# 22301
(JASMINE DRIVES)

It's one thing to have one
driver work fine for a long
time without problems. Heck, I
know a person who has a Hyper-
Drive 10 surely one of the
worst drives ever. Even in a
bad batch of drives there will
be some that are good and will
outlast the bad ones. Even the
Jasmine drives aren't all
bad.[...] is in the 10 to 13%
failure rate. That to me is to
high for a good drive. If you
are feeling lucky get one. You
have 90% chance of getting a
good one.

Msg#:22340 *BMUG LOCAL*
01-18-89 09:18:20
From: CRAIG STEIN
 To: STEVE COSTA (Rcvd)
Subj: REPLY TO MSG# 22305
(JASMINE DRIVES)

It seems to me that you have a
personal vendetta against
Jasmine. I mean, after all
they did put an essay of yours
in one of their manuals.
What's up? Why only Jasmine?
There are dozens of drives out
there which are plain
#@#$#@!!! Jasmine makes an ex-
cellent drive, you cannot deny
this. No thank you, I do not
want a PLI-they are made
poorly (I remember the on/off
switch was crooked, the light
was not aligned where it
should have been)-just plain
bad.

Msg#:22342 *BMUG LOCAL*
01-18-89 09:42:34
From: DAVID SCHWARTZ
 To: CRAIG STEIN (Rcvd)
Subj: REPLY TO MSG# 22340
(JASMINE DRIVES)

 I own a DirectDrive 100, and
have had no trouble at all.
```

Since there is a 2 year warranty, I'm not -too- worried about 10% problem rate. But in defense of Steve's comments (I was ready to post a message just like yours), I think it is because Jasmine is so highly touted that he wants people to open their eyes and have all the facts (similar to my vendetta against digital audio). Let's hope BMUG recommendations cannot be bought off as easily as a mention or article by a manufacturer.

David "editorials must be separate from influence" Schwartz

Msg#:22356 *BMUG LOCAL*
01-18-89 18:34:19
From: STEVE COSTA
To: CRAIG STEIN (Rcvd)
Subj: REPLY TO MSG# 22340
(JASMINE DRIVES)

For anyone to think I'd have a personally vendetta is silly. For years people said that I was biased for Jasmine because I would write wonderful things about them in BMUG choice products. A 10% failure rate is bad, when there are other drives out there with only a couple of hundred dollars difference, that only have 4 and 5% failure rates. Jasmine deserved the good things I said about them in years past.the problems with Jasmine drives that BMUG members have brought into the BMUG office have shown me that the drives just aren't as good as they used to be. The 45 meg drive is flaky and the 10 meg removable is good for a paperweight. We had people who have tried to call Jasmine Tech support for 3 days and either get a ring or a busy on the line. We have had people who have gone though 4 and 5 drives in six months. Other than Apple and a few other minor players in the hard disk world have had these kinds of problems. People who know me, know me to be very fair and incorruptible.

I only write what I know from personal experience...

Msg#:22370 *BMUG LOCAL*
01-19-89 10:29:50
From: CRAIG STEIN
To: STEVE COSTA (Rcvd)
Subj: REPLY TO MSG# 22356
(JASMINE DRIVES)

I only write what I know from personal experience:

Jasmine drives, new and old, are close to being infallible.

Msg#:22472 *BMUG LOCAL*
01-23-89 17:43:32
From: ANDREW STONE
To: CRAIG STEIN (Rcvd)
Subj: REPLY TO MSG# 22301
(JASMINE DRIVES)

I don't know about their drives being infallible, but they sure throw good parties. I think Steve will agree with me there!

Two and a half months and several lawsuits later...

Msg#:39317 *BMUG LOCAL*
04-12-89 22:38:13
From: STEVE COSTA
To: THOMAS BENGE (Rcvd)
Subj: REPLY TO MSG# 39296
(JASMINE DRIVES)

The only thing that I was really vindicated in was that Jasmine shipped some pretty crappy drives that hurt a lot of people. Someone at Jasmine had to know this was happening. The one thing that CMS and MicroNet have admitted is that some of their drives were bad and that they would exchange them for good ones.

Jasmine has just to post the serial numbers of the bad drives or offer any exchange for drives over the ninety 90 that do with any drives. I understand the reasons why and they are good reasons if Jasmine wants to be around next year. But it still grates and it isn't fair to those who trusted Jasmine to give them a good drive at a fair price. Like Jasmine used to do and seems to be doing now.

Msg#:39574 *BMUG LOCAL*
04-13-89 09:48:47
From: ROBERT HOLLAND
To: THOMAS BENGE (Rcvd)
Subj: REPLY TO MSG# 39296 (JASMINE DRIVES)

Well, let's watch one lawsuit at a time. What you have failed to see from my message is the implication that in order for the alleged plot against Jasmine to succeed, someone had to spread the word that Jasmine drives were no good. So did someone play Steve for a rube and get him to broadcast his warnings about the drives? I doubt it, because the press sure sucked up to Jasmine, as did several Jasmine drive owners who bought one drive and were happy with it.

Steve took a lot of heat for speaking his mind, but that's what happens on BBSes. Either way, the Jasmine thing could end up in court (because Rodime will settle out of court). There won't be a counter lawsuit. That's my prediction.

Doesn't the BBS look fun? Join the action on our eight-line BBS and our new forum on the world-wide Connect Network. It's the best way to keep track of what's really happening in the Macintosh community.

BMUG Virus SIG Alert.

- Several *Trojan Horses* are making the rounds of bulletin boards around the country. A *Trojan Horse* is a program that masquerades as something harmless and performs some covert action, usually destructive. The effects may be noticed immediately, when the program erases your hard disk, or later with some insidious result. Unlike a computer virus, a Trojan Horse doesn't replicate itself—it's a one shot job.

If you see a copy of *StuffIt 2.0* or *AntiToxin 2.0* floating around throw them away immediately!

StuffIt is a file compaction program by Raymond Lau, a young extraordinary Macintosh programmer. The current version is 1.5.1 (BMUG *Telecom 1* disk) and Ray says there never will be a 2.0 version.

AntiToxin is a virus combating program by Mainstay of Agoura Hills, California. It is a commercial virus-checking program and not shareware. The current version is 1.1.

The Hard Facts.

Your hard disk is an expensive and important part of your computing environment. Although you can't buy it sheepskin seat-covers, or a fancy leather car-bra, there are some things you can do for your special something. Here are some tips to keep your hard disk, and the data stored there, happy.

- **Disks should be formatted cold.** Some disks are shipped preformatted, while others have never been run (more common on the PC). The new 44 megabyte removable media drives feature hard disks in plastic cases that pop in and out of the drive.

  When you turn the hard disk on it is cold. As the drive operates it gets hot and the disk, a metal plate, expands. Most hard disks have fans to keep them cool, but they get hot anyway. The hard disk stores a lot of data in a very small space and the data will move with the heat expansion. Sometimes the drive can't find the place where it put

your data when the disk was cooler. The same process can happen in reverse — hot data can't be found in the cold.

This problem is most critical when the drive is started. When the disk is formatted it finds the sectors that are bad, so it won't put your data there. It also learns how to operate with your Macintosh. The software that performs these tasks is called the *SCSI driver*. If the disk is formatted hot, the driver software may not be available when the disk cools down. The drive won't work until it gets warm again.

To avoid this problem, first run the disk several hours until it gets hot (in computer lingo, ***operational temperature***), and then turn off the drive and let the disk cool off, perhaps overnight. The next morning, start the drive and format it.

The only time when you might want to format hot would be for a drive that will be left on all day, every day. This might be a business network server, or a computer bulletin board hard disk.

- **All disks should be formatted in the position they will operate.** If your hard disk will be on it's side, whether inside a Mac, or outside, it should be formatted in that position. Don't format a disk flat and use it sideways. Gravity does affect drives in small ways and some older ones were not recommended for sideways use. This rule applies to floppy disks too.
- **Beware of temperature changes in cartridge media.** Most hard-disks are closed up tight but not the removable units. They are open to the air and can be affected by sudden changes in temperature and humidity.

After a long trip in an air-conditioned car, bus or plane, wait before thrusting your cartridge in a hot drive. Let the disk come to room temperature, or it will start to perform the old science class project on condensation! Running the drive with moisture on its surface is not healthy for your data.

Shareware Spotlight

As the Macintosh virus problem gets worse, the marketplace hurries to supply us with counter measures. The commercial anti-virus solutions are not cheap and usually come in around $100 list. Site licenses can run into the thousands of bucks. But don't fret — volunteerism is not dead!

Disinfectant, an anti-virus detection and eradication program, is an international cooperative effort by a group of Internet programmers. John Norstad from Northwestern University lead the group, with help from hackers in Amsterdam, Zurich and the U.S. (including BMUG's Leonard Rosenthol).

This program is very easy to use and understand. It includes a long help file that describes the different viruses and recommends prevention strategies. *Disinfectant* only checks quickly, shows each folder/file hierarchy as it is checked, and repairs files faster than any other software available.

Disinfectant is freeware and is on the latest version of BMUG's *Utility 8* disk.

June

BMUG spans the globe this month with reports from Mac fairs around the world. The news is a disk shaking, byte bending adventure. Intrigue and gore are working their way off the pages onto your fingers — or is that your lunch?

Man Bytes Dog

The weekly BMUG meeting is filled with great plays, in spite of the treacherous blowing windbags. Developers hope for a home run, while the peanut gallery hope for some good BASICs. We always make sure the Mac is grounded out and off the disabled list.

No Mac is an Island

April was Mac month this year and most publishers and marketing representatives thought there was too much (or too little) of a good thing. There were Macintosh shows in Chicago (MacDex), New York (Macintosh Business Conference), Amsterdam (MacWorld Europe), Washington (Macworld Expo), and New Jersey (Macin-

tosh as a Research Tool Conference). The Mac was also represented at industry shows in Hannover, Germany (CeBIT), Philadelphia (National Computer Graphics Association) and San Francisco (Seybold Seminar). Holy frequent-flyer mileage MacMan!

The two super-hyped shows, MacDex and Washington Expo, were not monster hits. The Chicago show, called by the attendees *the Apple ghetto,* was a disaster — only the faithful came. The Expo did much better, but only half the convention center was used.

Some of the big player companies didn't even bother with booths at the D.C. show. They took residence in hospitality suites across the street in the Hyatt Hotel. This must have been a MacFantasy Island — the hotel has three floors below ground, with lagoons, waterfalls, colored lights and floating live piano. Here are some highlights (it's slim pickings):

- The hit of the Expo was the BMUG T-Shirt, tie-dye edition. It was one of the few offerings at D.C. that wasn't trying to out-corporate, out-bureaucratize its neighbor. A second edition is in the works if you missed your chance in April.
- Apple announced an external version of its 1.4-Mbyte SuperDrive for Mac IIcx and SE/30 flavored Macs. The big news is that Apple is going to "co-market" the *DOS Mounter* INIT, created by Dayna Communications. This software lets your Mac use DOS floppies without having to use the brain-dead *Apple File Exchange* program.
- Hardware hounds were drooling over the *Telfax Model RA210,* by the Relisys Company. It is a stand-alone fax machine that also plugs into your Macintosh. Incoming fax can be sent to your Mac, the Telfax, or both. It also can be used as a 200-dpi scanner or printer! If only it shredded documents too.
- The best panel award goes to *Computers and Ethics*— it's no joke! It was moderated by Peter Black, President of Xiphias, a CD-ROM publisher, and the speakers included an ABC News executive producer, a networking expert and a computer literate rabbi. Perhaps we'll see this repeated at every Expo (hint-hint).
- The best party was sponsored by the Pentagon and NASA User Groups, held in the Smithsonian Air and Space Museum. Many parties ran out of food in the first quarter of an hour. The BMUG road crew's food budget was ruined by this party parsimony.
- The Jasmine Technologies press conference was a disaster. It was held across from an undertaker's convention and the microphone was giving up the ghost. Dennis Chang, Jasmine's boss, talked the whole time about the companies reorganization and legal difficulties — not its new digital audio tape (DAT) drives for the Mac. The $7, 000 drive will store 1.2 Gbytes (a lot) on one cassette. You can backup a 20-Mbyte hard disk in just a few minutes. Maybe it was the enbalmy weather.
- John Sculley gave another rendition of his 1989 Show Speech and HyperTV Dog and Pony Demo. Practice makes perfect. He said, "We can play in a standards world, but we do it in a way that is very Apple." Huh? Is this a boast, or a confession?
- A funny thing happened at the Hannover Mac Faire. The Apple booth had a display of Macintosh logic boards. A hard headed person was looking at the candy in the window and saw something new. It had the look and feel of a Macintosh laptop board. It had definitely been manufactured in Apple's Ireland factory. It disappeared quickly into the back of the booth.

If you're planning next year's calendar, here's some news. The next San Francisco Macworld Expo will not be in January. It will move to April, and don't ask if/when the D.C. Expo will be. The vendors apparently didn't like competing with the SuperBowl.

The date of the 1990 Boston Expo is also floating away from the summer. Everyone was tired of working in a sauna and of testing the high temperature operating conditions

of their products. I'm sure the group that runs the Expos will pick some other convenient week — Jewish New Year, or the World Series.

One Good Word

Most BMUG meetings have questions about printers, viruses and word processors. *Word 4.0* and its place in heaven (or the other place) has been debated since beta testers started dropping hints a year ago. It's almost a Civil War psycho-drama, with the family split into the *Word, MacWrite II, WriteNow* and *Everyone Else* Camps.

A very good feature of *Word 4.0* are the **Commands** under the **Edit** menu. You can select the functions and features you want from a list of 255. All the command-key equivalents and menu items can be modified to fit your working style and needs.

One of the 255 commands is *Screen Test*. It's a screen saver, like the shareware *Moire*, but the background color is selectable (if you have a color machine). Probably the reason *Word 4.0's* release was delayed for six months.

Word 3.0 and *4.0* allow you to insert special *PostScript* commands into your document when printing on a LaserWriter printer. Here's a way to make sure draft copies aren't mistaken for the finished product.

Open your header and type in the following text exactly:

```
.page.
/Times-Bold findfont 100
    scalefont setfont
wp$x 2.8 div wp$y 3.5 div
    translate
0 setlinewidth
52.3 rotate 0 0 moveto (D R
    A F T) true charpath
gsave .95 setgray fill
    grestore stroke
```

Now select the text and press **Control-Shift S** to get into the style definition mode. Type the word POSTSCRIPT and press **Return**. Finally Close and save the header. Now the word DRAFT will appear in large outlined letters across every page.

The Poor Relation

Last year, Apple came out with a new family of LaserWriters — the LaserWriter IIs. The three cousins are the LaserWriter II NT, NTX, and SC.

At the bottom of the LW II clan is the *LaserWriter II SC*. It was hailed as a "new direction" for Apple's laser printing marketing strategy. Some new direction — buy this one if you don't have much money.

Although the LW II SC looks just like the higher priced spread, it's much different. Apple hopes you'll come into some dough and will take advantage of the many upgrades available for the series.

The LaserWriter II SC is not a *PostScript* printer. It can't perform all the wonderful graphic tricks that we're used to from our *PostScript*-wise graphic and layout software. But you can buy the upgrade...$

It also can not be shared by more than one Macintosh on a network. The *SC* comes comes from the *SCSI* (Small Computer Systems Interface) port which connects the Mac and the printer. But you can buy the upgrade...$

If you're a LaserWriter II SC owner, or thinking of purchasing one, here are some tips:

- **Buy the correct cable.** The LaserWriter II SC seems to give computer sales staff myopia. They think the only hardware combination possible with the SC is a Mac SE with an internal hard disk. Most sales persons will give you the standard cable (M0206) out of habit — not even asking if you have an external hard disk.

  If you have an external SCSI hard disk you will need a different cable — most likely the Apple SCSI Peripheral Interface Cable, MO207. Some SCSI devices have different connectors than others. Most Mac drives use a 25-pin connectors, while others use a 50-pin plug. To make sure you get the correct cable combination for your drive and printer, bring the drive and its cable to the store and try it out.

- **Think Four.** The LaserWriter SC doesn't use outline, or *PostScript* fonts (ok, System 7.0 will offer Apple Outline fonts — it's a year away and we have to buy today). It looks at larger sizes of bitmap fonts (the ones you install in your system file) and squeezes them down to size. The LW SC needs installed fonts **four times larger** to print in an acceptable quality. Make sure any special fonts you need come in 48, 56, and larger points.
- **It's not broken.** When you turn on a *PostScript* LaserWriter, it spits out a fancy test page. With the LW SC you can wait all day for the test, but it won't come. It's not broken, just tightfisted. To get the test, the LaserWriter SC must have its *SCSI ID* set to 7. Each SCSI device must have a different ID number. The Mac's is always 7, so if you must check the test page, turn your Mac off. Be sure to reset the LW SC number when you're done fooling around.
- **It's not broken II.** When you select a *PostScript* LaserWriter in the Chooser (by clicking its icon in the left hand box), a printer name usually appears in the right hand box. Don't expect the LaserWriter II SC to give you its name. It's not broken, just shy.
- **The maximum length of a SCSI chain is 18.7 feet.** SCSI devices can be connected together in a *chain*. The combined length of all the cables can not exceed 18.7 feet.

Shareware Spotlight

Macintosh software have *flags* that tell the Finder their identity. This lets us view programs and files by type.

Application programs have additional information that allows them to have their own icon and assign icons to documents and related files. This code is stored in the *BNDL resource*. Software with this resource are marked by having their *Bundle bits* equal to 1, or *set*.

Unfortunately, there have been programs which incorrectly set the bundle bits of documents they create. The most pesky recent example was the first release of *FullWrite Professional*, whose Thesaurus' bundle bit was set.

The outcome of a set-bit document is serious. When you double-click on a document, your Mac opens (or tries to open) the application which created that document. The *FullWrite* documents tried to open the "application" *Thesaurus*, thinking the thesaurus was its creating application. Users discovered a big difference in performance between the real program and the pantomime program. KaBoom!

BundAid, written by Jim Hamilton, scans a disk and makes sure that each file whose bundle bit is set, actually has a BNDL resource. If it does not, the bundle bit will correctly be cleared to 0.

BundAid and a lot of other goodies are on BMUG *Utilities 11* disk.

You survived — Congratulations! I hope it was fun. Since you were such a wonderful audience, here is a little encore.

- **Here's an idea if you save the packing cartons and stuffing your hardware comes in. Cut along a corner with a cardboard knife and turn the box inside out. Use a strong strapping tape to repair the box. When you reuse the carton and sent it through the mail, no one will know that your baby's inside. Thanks to the macvalley Voice, the Burbank MUG.**

How To Use Your New Macintosh

by Arden Heresiarch
© 1989 [An heresiarch is an author of heresies.]

It would be unwise to proceed too precipitously to rip open the box and rip away the packing materials from your new Macintosh computer and to plop your computer down any old place on your cluttered and dusty desktop, plug it in, and begin immediately to try to find out what works and how it works. No, such a course of action would be most unwise.

For it has been written: "Thou shalt enthrone thy Macintosh, in its box, upon thy thoroughly cleaned desktop for a week, and genuflect every time that thou art obliged to pass in front of it, but thou shalt not yet presume to approach it too closely until after thou hast passed two weeks in fasting and prayer and supplication and the reading of Sacred Scriptures such as the Computer Currents and Micro Times, and watching on thy television-set the religious program entitled *The Computer Chronicles*; then shalt thou perform a ritual bath of purification, after which thou shalt perfume thyself with sweet-smelling perfumes, and thou shalt array thyself in costly and clean raiment; then shalt thou spread an altarcloth upon thy desktop, thou shalt remove thy sacred Macintosh from its box, and set it reverently upon the altarcloth, and place a tall candelabrum at each side of it. In the candelabra, thou shalt place white candles of pure beeswax, and thou shalt light them. In the flame of one of the candles, thou shalt light a cake of incense (sandalwood is best) and place it into a thurible or censer; then thou shalt swing the smoking censer as thou intonest prayers unto the Great Goddess Macintosh: Thou shalt invoke her benevolence toward thee; thou shalt pray that she will boot up properly, thou shalt pray that her system will not crash, thou shalt pray that ..."

Here the text of the sacred Scripture becomes unintelligible; but it most certainly must contain admonitions whose disregard is fraught with peril, for I myself, having been unable to decipher the divine instructions, have had my system crash, and my cursor and keyboard and trackball freeze, yea, even I, who have been most diligent in my attentive devotions to my Goddess Macintosh, have been thus afflicted with punishment for having committed sins of whose nature I was not even aware, because of the indecipherability of the sacred Scripture.

Now therefore I, Frater 22-Arden Heresiarch, do earnestly beseech you the readers that you may come to mine aid and help me to complete the decipherment of the text of the sacred Scripture of the Great Goddess Macintosh.. You can contact me through:

Temple of Holy Macintosh
c/o BMUG / Berkeley Macintosh User Group
1442-A Walnut St #62
Berkeley, Ca 94709
415-849-9114

How To Mitigate Macworld Expo Madness

by Shirley Hershey

If you plan to attend a Macworld Expo for the first time, be forewarned. Whether you attend an Expo in San Francisco in January, or Washington, D.C. in May, or Boston in August, if you don't plan carefully, you may find yourself drowning in a mighty maelstrom of MacMadness.

Chances are that no matter how carefully you plan, no matter how scrupulously you stick to your plan, no matter if you attend the full three days of this exhilarating event, you will still feel you missed seeing and doing all that you wanted to see and do. There's simply too much to absorb in only one day or three days or, even, three weeks.

Despite constraints of time, money, and strength, Macworld Expo visitors can enhance the pleasure and satisfaction to be derived from this sensational Mactivity. Here's how!

- Preregistration. If you know in advance that you will attend the Expo, preregister to save time and money and avoid the hassle of waiting in a long queue to pay the admission fee.

  Registration forms and additional information about the Expos (locations, dates, admission fees, and other details) are published in MacWorld magazine issues.

- What to Wear. By all means, wear casual clothes. Although some attendees will sport Yuppie attire, jeans are perfectly acceptable. And because you'll be on your feet most of the time, traverse the aisles in your most comfortable shoes or sneaks.

- Checklist. Be sure to take along—

→ A Pen or Pencil and a Small Notepad to jot down merchandise prices and other memos..

→ Name Cards. Stuff your wallet or pocketbook with plenty of business cards. If you don't have any make up your own name cards.

These cards don't have to be fancy; they can even be written in longhand on slips of paper and need not list a place of business but should include your name, address, and telephone number. Be assured, whether they're printed or handwritten, they'll come in handy.

→ A List of Products that you want to examine up close. If you lack a reference list of this sort, you may find yourself so swept along by the myriad of sights to see and sample that you'll overlook several items that you particularly wanted to investigate.

→ Your Badge if you're preregistered. If you lose or forget your badge, you'll have to stand in line to buy a replacement. In any event, be sure your badge is placed in its plastic holder so that it won't fall out and is pinned on securely.

→ Be an Early Bird! Doors open at 10 a.m. and close at 6 p.m. Arrive early to avoid waiting in a long queue just to get in.

→ Upon Arrival, resist the temptation to plunge into the milling crowds. Take time out to plan your strategy.

→ Program. If you preregister, you should receive your program in the mail along with your badge.

Otherwise, be sure that the first thing you do upon entry to the Expo site is pick up the program which will list the exhibits and seminars and tell you where they're located. A map of the premises will be included.

→ Get Your Bearings. Scan the area and the program's map to understand the layout. Most probably the aisles will be

numbered and the exhibit booths will also be numbered.

Now then, while consulting the program, start checking off or making a list of the exhibits that you particularly want to visit. By doing so, you'll be able to navigate up and down the aisles much as an efficient shopper in a supermarket does, heading in a direct route for the exhibits that you know you absolutely want to see and pausing here and there along the way when some display catches your fancy.

If you will be attending seminars, make your selections of those that you plan to attend. The program will list the time, location, and brief description of each of the seminars.

→ Plastic Bags. The last thing to do before you start cruising the aisles is to pick up a plastic bag. You'll definitely need at least one, and probably more than one, when you start collecting brochures, magazines, buttons, software, and the like. Many vendors have sturdy plastic bags available at their stands.

- Booths. As you wander among the many exhibits, you will behold paraphernalia and accoutrements for your Mac that you never dreamed could exist. You will be awed by the video displays of imaginative software programs. And you will covet the latest technological advances in hardware equipment that are being showcased.

For truly innovative software, particularly in the educational field, stop by the university kiosks.

Other exhibits of interest will be the user groups, like BMUG, Boston Computer Society , and Washington's Apple Pi where you can purchase, at very moderate cost, software copied from their libraries.

Be sure to visit the Apple booths and make an atempt to get answers to your questions about your Mac and demos of the company's newest products. It's possible, by the way, that Apple will have giveaway software, but, if so, better get there early because the supply runs out quickly.

- Seminars. Most, but not all, of the seminars are stimulating and generally afford attendees a multiplicity of helpful hints. Speakers or panelists at these seminars may include such MacCelebrities as John Sculley, Jean-Louis Gassée, Bill Atkinson, Andy Hertzfeld, Guy Kawasaki, to name but a few.

If you have but one day to spend at the Expo, you may wish to save the extra cost and time for the seminars and, instead, concentrate on exploring the wealth of exhibits on the floor.

Major companies, such as Microsoft, Informix, Silicon Beach, and Aldus, can be counted on to present free seminars several times every day of the Expo. These seminars are generally slick, informative, and entertaining and, sometimes, provide even more valuable insights than those to be gained at the paid-for seminars..

If you would have liked to attend some of the seminars but, for whatever reason were unable to do so, you can purchase a video or audio tape of any or all of the seminars. Order the ones you want right on site, if you wish.

- Freebies. Among the giveaways will be the latest editions of such magazines as MacWorld, MacUser, HyperLink, Publish!, Personal Publishing, and many other publications.

  If you're a button collector, a proliferation of buttons will await you at almost every booth. Other goodies likely will include free demo disks, posters, candy, fortune cookies, pens, and a host of other promotional items.

- Drawings. You'll use your business cards to enter your name for drawings of free merchandise, including such nifty prizes as Macintoshes, scanners, hard disk drives, and software programs.

Although entry forms for these drawings will be available, you'll save the time and trouble of filling them out by having your supply of name cards (printed or handwritten) all ready to drop into the entry boxes.

- Refreshments. Refreshment stands and, possibly, even a cafeteria and restaurant, will be scattered here and there. You can be assured most, if not all, of the food emporia will charge highly inflated prices for food and beverages. If you're on a tight budget or want to avoid standing in line for overpriced comestibles, "brown bag" your lunch.
- Best Buys. If you plan to purchase any products, you will probably find the best prices at the kiosks of such discount mail-order houses as MacConnection or MacWarehouse .

Although few software and hardware distributors sell their wares during the Expo, several will accept orders for their products at specially reduced prices.

Generally, you can make your best buys during the closing minutes of the last day of the Expo. Shortly before the Expo ends, many vendors lower the prices of their already discounted wares or auction off their products to the hordes of last-minute shoppers.

- PostExpo Blues. When, at last, it's time to depart, you will undoubtedly suffer deep melancholia. You would have liked the Expo to continue on and on. But, comfort yourself, there's always the next fabulous Expo to look forward to, but this time as a polished MacWorld Expo maven.

You would have liked the Expo to continue on and on. But, comfort yourself, there's always the next fabulous Expo to look forward to, but this time as a polished Mac

Mini Reviews

by Scott Beamer

Thunder II

Thunder II is an interesting mixture of hits and misses, sure to keep the Macintosh gadget freak busy for many hours. Many people will find this the best spelling checker for their needs, but many others already have a better spelling checker, either standalone or built into their other software. Today, when even Macintosh graphics packages have built in spelling checkers (MacDraw has a spelling checker?!?), a standalone checker has to offer unique features to justify buying it. Thunder II makes a strong attempt to do just that.

To install it, just drag its icon to your System Folder. It is a CDev (Control Panel Device), meaning you find its icon in the Control Panel (under the Apple Menu). Clicking on its icon brings up its own control panel, giving you the opportunity to install it to open automatically in practically any application or DA into which you can type text. That includes your database, spreadsheet, DA word processor, telecommunications package, or whatever.

Of course, there are some pitfalls and incomplete functioning in some situations. If you have an unusual use in mind, better check it out in the store or phone Electronic Arts before buying.

Thunder appears as a check mark on the menu bar whenever a designated application is open. Interactive checking, check selection, batch checking, glossary substitution, and some grammar checking are offered. Personally, I've never been able to get accustomed to have someone looking over my shoulder, second guessing my spelling as I work... even if that someone is software on my computer. It distracts me and makes me lose my train of thought.

I prefer to check my work as a batch just before printing. Don't forget to do a final proof reading before printing with whatever spelling checker you use. None of them can correct typos when you inadvertently spell a word in the dictionary when misspelling another, for instance writing "form" for "from. " or "jut" for "just. "

While some Mac word processors include glossaries, most do not. Thunder II may slip into the list of preferred Mac utilities not for its spelling checking, but for its glossary. The feature works with most Mac software. Just type in an abbreviation, and Thunder fills it out on the fly (e. g. "fyi" becomes "for your information").

Glossary entries may include up to 255 characters, and may include carriage returns. This allows you to do paragraphs of boilerplate or a mailing address. It can be used with a telecommunications package, a database, or even a spreadsheet. The potential of this feature demands further investigation.

In the fine old tradition of real Macintosh software, Thunder has lots of personality and a feature added just for sport. This is the sound editor which allows you to assign custom sounds to each of the types of errors that Thunder detects. I currently have mine set up with "Breaking Glass" for misspellings, "Cuckoo clock" for Capitalization, "Fight Bell" for punctuation, and "Double Bicycle Bell" for double words. Of course, a clap of thunder is also available. The standard Mac tone can be adjusted in pitch and volume as an alternative for any of these. If you prefer no sound, the menu bar can be set to flash instead.

The Dr. Jekyl and Mr. Hyde of this product can be found in its dictionaries. The main dictionary has been enlarged from 60, 000 to 80, 000 words, and three supplemental dictionaries (Abbreviations, Contractions, and Computer Terms) have been added. The first problem is that the word lists (that spelling checker dictionaries actually are) are

not visible for inspection or editing. All three of its standalone competitors (Spellswell, Spelling Coach, and Spelling Champion) do have their user dictionaries open for inspection.

Dictionary size still lags behind all current Mac spelling checkers. The problem with smaller dictionaries is that they question more false alarms, words it suspects, but that are spelled correctly. I found enough errors included in the original Thunder to be very leery of its dictionary. None of those original errors remain, but new ones have been added ("pfpoular" and "centage" were both accepted as correct).

I was even more suspicious of the dictionary for a while, as I had inadvertantly turned on "Ignore capitalized words" among the preferences. This is presumably to keep Thunder from pestering you about the spelling of personal names, products names, and such, but it also means that it ignores typos in the first word of every sentence and in proper names, such as the names of the months.

Another unusual feature, not to everyone's taste is that the dictionary includes both the British and American spellings of the words that vary between the two languages, so "colour, " "theatre, " and "cheque" are all acceptable.

Thunder II may be the strongest guesser among all Mac spelling checkers. This is important because the quickest way to correct a found misspelling is to indicate the correct spelling with command keys or the mouse from the list of suggestions presented by the spelling checker.

Thunder II's flexible and innovative design will allow you to use it in new and unusual ways. It is a fun and relatively hassle free program to use. With its low price of $79. 95 and glossary, it may allow you to improve performance in much more of your software than just word processors.

Update on Spelling Checkers

New niches, products, and foreign language dictionaries

There is good news and bad news about Macintosh spelling checkers these days. First the good news, including a spelling checker seems to be de rigeur for most new Macintosh software. Even MacDraw II has one. They are pretty good, too. All have dictionaries of 100, 000 words or more (except Nisus), are fast and reliable, and increasingly, they check more than just spelling. Some check for double words, capitalization, and punctuation errors. Some have hyphenation checkers and thesauri.

Now the bad news... with all these free spelling checkers, the bottom has dropped out of the standalone market. Only one spelling checker has released an important update in the last couple of years. That is Thunder II, now of Electronic Arts (see review above). Its primary reason for existence is that, as a DA, it can work with almost any Macintosh application. Its glossary function accepts carriage returns, so it can provide typing short cuts when working in accounting packages, databases, maybe even programming.

Most standalone Mac spelling checkers have abandoned the field (though they are technically still for sale) to Spelling Coach and Spellswell. Though these two products have been maintained and updated, the core engine in both is several years old, and it shows. Their performance at actually spell checking is no better than, and often not as good as, the built ins.

Increasingly, they will have to look for niches to survive. Deneba has done this by going for big, first with their Spelling Coach Pro, then with the Big Thesaurus, both the largest word lists in the field. Spelling Coach Pro also includes the only true dictionary (i. e. with definitions) available in software for the Mac (the rest are just word lists). The Big Thesaurus is now bundled with Spelling Coach Pro.

Electronic Arts

1820 Gateway Drive

San Mateo, CA 94404

415/571-7171

Spellswell continues to be the spelling checker that checks for the most grammar errors as well as spelling. They have quite a variety of dictionaries available, but they are a bit pricy. There is the 103, 000 word extended dictionary for $15, Medical and Legal for $99. 50 each, with a technical and geographical soon to come. All these work with the standalone Spellswell, QuickLetter, LookUp MS Works, and MindWrite.

If you want an interactive spelling checker with MS Works, check out WorksPlus Spell 2. 0, written by a defrocked Works programmer, but sold as a separate product. It works with any version of MS Works. It also provides glossary functions. WorksPlus Command, a companion product, adds elaborate Macro abilities to Works and comes with a large library of Macros ready to use.

Español, Francais, Deutsche, British

Still more potential than fact are foreign language dictionaries for sale in the US. Because it is a small market, full of tech support and licencing headaches, most companies are talking about it, but waiting for the other guy to go first. Claris recently made the first move, and we'll see how many follow. In every package for MacWrite II, is a certificate offering to sell you Spanish, French, British and German dictionaries at $50 apiece. These dictionaries work all Claris products that contain a spelling checker.

As Microlytics also supplies the spelling checker built into FullWrite as well as Claris products, look for these foreign dictionaries to be available for it soon.

LetraSet and Quark sell foreign language dictionaries for their page layout programs, but they don't advertise the fact.

OCR products will give another impetus for foreign language spelling checkers. All now read most European languages. Accutext requires you to buy lexicons for each language, but also makes localized versions of Accutext (with the menu bar in the foreign language) available in the U. S. OmniPage 2. 0 will read most European languages.

It looks like the dam is breaking. Let's hope that soon, the U. S. Mac market will accept that it is part of a world and versions of all appropriate products will be available in the U. S.

Super Safe SAM

Symantec AntiVirus for Macintosh

SAM seems to me to be the best viral protection out there, but as you can read in much more detailed articles in this issue, there are other choices, some of which are a lot easier on the pocketbook. Among these, Disinfectant is the BMUG favorite.

I've never had any of my hard disks infected. When I became a beta site for SAM, I had to look around for something to show that it worked. It wasn't hard to find hard disks used by the public that were infected. SAM always performed admirably, finding and eliminating infections.

The best arguement for SAM, however, happened later, when I had forgotten I had the program on my hard disk. A visiting university professor came by, wanting the latest System, shareware, and fonts to take to a friend in North Africa. He brought his hard disk by to get these things. We were chatting along as we hitched the hard disks together and restarted the Mac.

Our conversation was interrupted by the Mac's warning bell. A picture of the Grim Reaper on the screen warned us the presence of nVir A had been detected. I explained to him where the warning came from, and I could sense the embarrassment (similar to "who farted?") as we both started to explain how it had to be the other guy's disk that was infected.

He insisted, that while students had free access to the hard disks he was in charge of at school, he never took this one out of his home, and he only brought floppies of data home from work.

SAM found nineteen infected files on his disk, a veritable menangerie of viruses. It had occurred to him by then that his Mac at home didn't seem to have been working as well of late, and he did have teenaged children who were allowed to use the machine.

SAM removed the infections, though it took two passes (one of the applications had multiple infections). Actually, SAM strongly advises that you don't use it to repair infected applications, suggesting instead, that you delete the infected program and replace it with a clean copy. Just to see how things worked, I've always let SAM try to repair the program. So far, it seems to have been successful every time.

I like Disinfectant. It is provided as a public service and works very well, but in a situation where a machine is exposed to

multiple users, SAM is a must. Not only does it automatically detect the virus, it points the finger to the carrier. Too bad the alarm bell can't be replaced by a user customized sound. Hopefully, the carrier will learn something from the experience as well.

SAM can be set to automatically scan every floppy put into a machine, to ask every time if you want it to scan the inserted floppy, or will scan it only when a hot key is pressed. It also monitors system activity, reporting all unusual events. As some programs do break the rules, the user is allowed to make an exceptions list of programs that will not bring up alert boxes.

Even if you think you're a computer hot shot, too smart to ever get infected, SAM may save you considerable grief. Only a slight memory lapse is necessary to get infected. Most infections do little damage. Many people have used an infected hard disk for months without noticing anything unusual. Still, even these people may have had a smoother time with their computer if only SAM had been installed.

While SAM detects all known viruses, more seem very likely to appear. Symantec has decided to let you determine how you want to handle it. $49. 95 a year, and they will send you all updates. If you prefer, you can order individual updates for $15. 00 each.

SAM from Symantec Corporation, 10201 Torre Avenue, Cupertino, CA 95014. 1-408/253-9600. List Price: $99. 95

SCANMAN

Great Fun, is it Tax Deductible?

I've been using a ScanMan portable scanner from LogiTech since February. I've done scans for OCR work which have resulted in error free translations (See OCR On A Shoestring), I scanned line art and grey scale. My kids have scanned each other, coloring books, the cat, etc. It reminds me of the college game where students mooned the new photocopier in the library at 10¢ a shot.

Many people are spending a considerable amount of time trying to figure out how to justify buying it. It's that much fun. The product works very well, much better than you would expect. Its resolution is adjustable to 400 dpi, with contrast and grey scale patterns also adjustable.

The low price is achieved by substituting your arm and motor skills for the tracking housing and the electrical motor that moves the scan head over the page in more expensive units. In my case, this is not such a good substitution. Some people have a good hand for this, I don't. Sometimes, I get good results, though it may take me a few tries.

The scan head eliminates the problem of pacing the scan correctly by using a control identical to the mouse, of wheels and lights(LogiTech is the major supplier of the Apple mouse). My problem is I sway and yaw. I can remedy this to a degree by using the spine of a book as a straightedge. I find the phone book works well.

The other problem with these units is that the scan head is only 4. inches wide. Full pages must be done in at least two passes. It is not as hard as you might think to paste the two images back together later, but it does add time to the project. There is the unexpected advantage that though the picture may only be 4" wide, it may be as long as you have memory for. I recently did a miniature of Sesshu's long scroll, a horizontal Japanese scroll painting. The original was 48 feet long. My copy is 12'.

The software works as a DA or standalone. It has Zoom and can rotate images, and saves images as PICT or TIFF. The nicely finished hardware attaches as a SCSI device.

ThunderWare makes LightningScan, a product with an identical scan head and very similar software for a slightly higher price.

In the final analysis, the image saved is identical to that from a conventional 400 dpi grey scale scanner. The limitations are only that the scan head is four inches wide, and there is the possibility of image distortion from not moving the scan head across the page smoothly enough. Speed is about equivalent with conventional scanners, provided the image is less than four inches wide. Otherwise, the job of aligning multiple images makes the process much slower.

ScanMan
$495?
LogiTech, Inc.
6505 Kaiser Drive
Fremont, CA 94555
415/795-8500
LightningScan
$549?
ThunderWare
21 Orinda Way
Orinda, Ca 94563
415/254-6581

Jasmine DirectPrint

DirectPrint
Jasmine Technologies, Inc.
1740 Army Street
San Francisco, CA 94124
415/282-1111

Not a laser printer, not a PostScript printer, just what is the $3495 DirectPrint from Jasmine? It's a liquid crystal technology, 300 dpi PostScript compatible printer. The liquid crystal technology gives more even blacks in graphics and fewer moving parts to the engine. The unauthorized PostScript status means they don't have to pay Adobe hefty royalties, so the price is lower.

Built to compete with the Apple LaserWriter NT, it does offer some advantages. It weighs much less, and is almost luggable. It has a longer duty cycle. With Apple's printers, the toner cartridge and drum are a single unit. When you run out of toner, you are expected to buy a new unit. With the Jasmine unit, toner cartridge and drum are separate units. This allows the drum a longer duty cycle, hence lower operation cost. You can refill your own cartridges, another price break as well.

I've been using this printer for a month now, and it's been a pleasure. It is intended for someone like me, just normal office use. It would be a very daring move for a desktop publishing pro to buy a printer that can't use Adobe fonts. They probably have a bundle already invested in them, anyway. But for general use, the sort I'm likely to give it, I don't notice the difference. The pages look great, just like I would expect them to look. The DirectPrint comes with the same fonts as Apple's PostScript LaserWriters. If I try to print a document formatted with Adobe fonts, it just substitutes the closet match. Chances are you won't notice any difference.

There are some limitations to the DirectPrint. It does not have a single sheet feed, per se. It can't print nonstandard paper sizes, including envelopes. There have been some complaints about it having trouble with Bitstream and other outline fonts. A new set of ROMs is being supplied to all customers free of charge. Mine has not arrived by the time this article went to print.

I like the machine and would be happy with it permanently. The biggest reason for me to not buy it is that it appears rapid changes in the printer market are in the offing. Apple has announced System 7.0 will include new font technology and printer support. This should allow for high quality, low cost printers.

Possibly the first to announce such a machine, Hewlett-Packard has announced a new model of their DeskJet series, to be made for the Macintosh. To be called the DeskWriter, will print at a 300 dpi resolution, will fully support QuickDraw, and will be priced at $1,195. Sounds too good to be true to me, but I'm willing to wait to see what's coming. For those who don't want to wait, let me recommend the DirectPrint as a reasonable LaserWriter substitute.

A.C.E.

This is one of those programs that when you see it, you'll think, "Yeah, they should have done that a long time ago." This hard disk security system of the 90s has so many options, it will take you months to work out all the ramifications for your situation.

It's not hard to install or use, just so many options. Here's a few examples. It requires a password to put a disk in the floppy slot. No password, and it spits the disk back at you with a rude noise. Password control extends from the printer port to DAs. Each item can be turned off or on and various password levels assigned. Individual applications can be protected so they can be run but not copied. Turning the Mac off and rebooting from a floppy will not bypass the security.

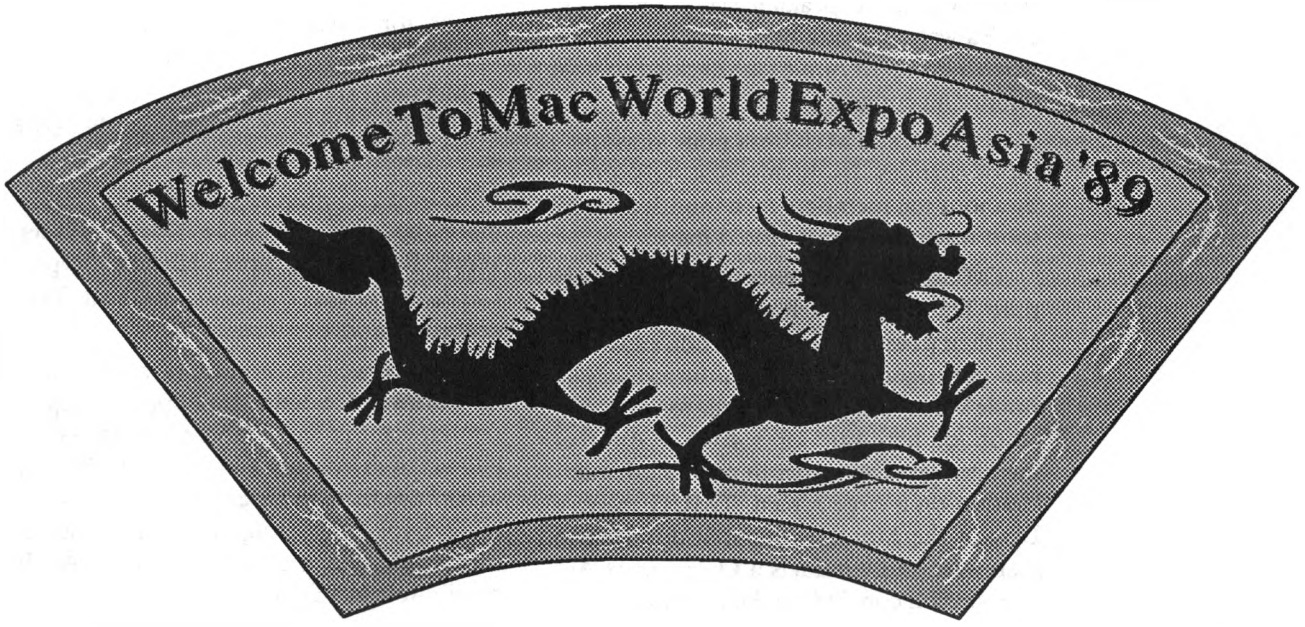
This is hot enough, by MacExpo San Francisco '90, every hard disk on the floor will probably be protected by this. It's great for the office, too, and even the individual machine, just to keep the kids under control. It can be used on networks, without interfering with the network security.

Data can be encrypted, two levels available (top level should meet government "orange book" standards). Individual files or groups of files can be locked. There is an optional log that will track your choice of activity. It can track everything, including laser printer or modem use. It notes which password was using the machine at each moment. This should make virus control a snap. If it doesn't embarass them into cleaning up their act, it should at least identify carriers as candidates for further education.

The password structure can have as many levels as you want, with each level assigned different privileges. One minor problem I've noticed, peers cannot have privacy, no private mailboxes under this system (though other mailbox systems can be used with it). Everyone at your level or above has access to your material.

As you might expect, this program is a battle to debug. Casady and Greene aren't through yet. In fact, things are going on so long, they are considering selling the debugged portions at a discount price, as "Gammaware." Normally, buggy security software might not seem like a good idea at any price, but the price break is great, and the serious bugs seem confined to a couple of features that will not be included on the Gammaware disks. Needless to say, the Gamma buyers would receive a free upgrade when the true version 1.0 ships. If Gamma is offered for sale, a price of perhaps $89 was being considered. The shipping price is expected to be $395. BMUG has just started to use it in the office, and I'm using it on my hard disks. Call Casady & Greene for more information.

A.C.E.
Casady & Greene, Inc.
P.O. Box 223779
Carmel, CA 93923
408/624-8716



TMUG, Mac In Taiwan...

by Wolfgang Schubert

For further details on the Taiwan Macintosh Users Group and TUGnet, phone Wolfgang Schubert, who heads TMUG, on +886 2 893-2018 or leave him a message on TUGnet.

TMUG, Mac In Taiwan...

Wolfgang Schubert

P. O. Box 90

Peitou 11299

Taiwan, Republic of China

TAIWAN MACINTOSH USERS GROUP

The Taiwan Macintosh Users Group is the only English-speaking Mac Users Group on Taiwan. Its origins go back to 1982, when a group of Apple fans decided to hold regular meetings.

Since then, TMUG has gone through a lot of changes. Its membership now grows by about ten members each month and will soon reach the one-hundred mark.

TMUG holds a general meeting every third Thursday of each month for members and their guests. After registration and informal get-together, the group introduces an Apple video or a guest speaker for a presentation of hardware or software. Another member gives an in-depth product demonstration on a large screen. TMUG shares a Disk-of-the-Month with public domain and shareware and conducts a Question & Answer session concluding the two hour meeting.

For members the **TUGnet** electronic bulletin board provides 24-hours a day online information and an exchange place for their messages, hints and programs.

TUGnet is accessible on +886 2 768-7542 with a 1200 or 2400 baud modem. It is enough to give your name to register on a trial basis to enter or read messages. However, only paid-up members may access the Utilities and the File Section with Software, Computer Reviews, Articles and Games.

TMUG charges a membership of NT$ 500 (US$ 20) for the whole year including a subscription to its "Bits & Pieces" newsletter.

For those who visit the monthly meeting in person for the first time, the Disk-of-the-Month is free.

Meetings are scheduled this year on September 21st, October 19th, November 16th and December 21st, 1989.

Individual interest groups and classes meet separately for **Mac Novice Users, Word Processing, Spreadsheets, HyperCard, Business Applications and Programming** on a regular basis.

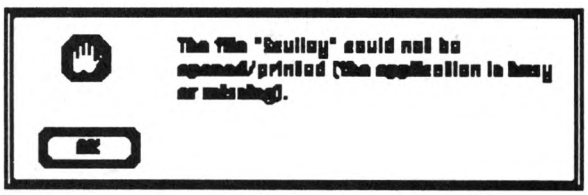
TMUG welcomes curious visitors who have not yet decided to buy Apple Computers, but want to know more about the possibilities or hardware and software for the Macintosh from the user's point of view. To achieve this, the group cooperates closely with Apple's importer and the dozen Apple distributors in Taipei. TMUG has also established contacts with other Chinese Users Groups for both Macs and PC's. Recently it became more international by making its existence known to other MUGs and large Bulletin Boards in the US, Europe and Asia.

Beginner, Oh Beginner!

by Gerald H. Raddatz and Manny Roizen

We are all beginners in some way, shape or manner. It's just that some of us have progressed more than others. As volunteers at BMUG, we have seen and heard many strange and wonderful people with their questions and problems come through the front door and over the telephone receiver. We are listing ten of the most asked and confusing things about using the Macintosh that perplex new users.

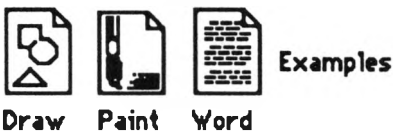
1. System Folder Those of us lucky enough to have a hard drive are required to have only one *System* in one System Folder. More than one System can cause confusion and crashes. Use the **Find File** Desk Accessory under the Menu to see how many Systems you have. Trash all but one. As a matter of fact, you should have only one of any System Resource: *Finder*, *Scrapbook*, *Font/DA Mover*, and the like.



2. Unable to Open Have you ever double-clicked a document only to be confronted with this dialog box? It means you may or may not have the application to read the document. An **application,** also known as a program, is a piece of software that creates documents; a document is the thing created or affected. If you know what application will open the document, open the application first, then close any "Untitled" window that automatically opens, and then choose **Open...** on the **File** Menu. You will be asked what document you want to open. Select the drive and document you want and click **Open**.

If you don't know what application will open the document, highlight the document by clicking on it once and select **Get Info** under the **File** Menu. This may identify the type of document it is.

For instance, if it is a text document you will need a word processing application to



open the document. Close the Get Info box, Open a word processing application such as MacWrite and proceed accordingly.

3. KISS (Keep It Simple, Stupid) When first learning how to use your Macintosh, keep your applications and tasks simple. Don't go out and buy *Page Maker* and expect to become proficient overnight. There is a learning curve. Build up your confidence and work from there. If nothing else, read the manual.

But more important, "play" with your applications and programs; experiment with every item on every menu; duplicate your experiments and either jot them down or remember what you did and how. You learn best by doing—often; you may even learn more from your mistakes.

MacWrite

4. Applications and Programs Make a copy of all your applications and programs. Do not use the original when installing on your hard drive. Even if you do not have a hard drive, make a copy — do not use the original. Lock the original before copying. (You lock a disk by moving the tab in the upper right corner to see an open hole.) Open each disk to see what is being put on the hard drive. Remember, only one System in one System Folder. (See "How to copy a disk" in the Addendum.)

SuperClock! 3.0

5. Startup Documents: These handy little creatures live in your System Folder and add functionality to your Macintosh. If you **Get Info** about the application using the **File** Menu, it might say **Startup Document**. These little programs , sometimes called **INIT's**, make owning a Macintosh more enjoyable. They are *init*ialized when you turn on your Mac. Also lumped into the same category are **Control Panel Documents,** which work like Startup Documents but also appear on the Control Panel under the Apple menu. Both kinds will give you that annoying message (see #2, above) if you try to open them by double-clicking.

Some examples are: Super Clock puts a clock on the menu bar; Moire is a screen saver.

A word of caution: some Startup Documents may conflict with others, or take up valuable RAM memory and prevent some applications from running, particularly under *MultiFinder*. Try putting in one at a time and see what happens. If your System crashes when you restart, remove the conflicting documents. Not all of them work together or with different System versions.

HDBackup

6. "To Go Forward, You Must Backup" Many people come to BMUG with tears in their eyes. Their hard drives or disks have crashed and they wonder if we can do anything. Our first question is, "Do you have a backup?" Most do not, but we are usually able to help. There is nothing more exasperating than losing all your work and not having a backup. So before you start using that original floppy disk — WHOA!! BACKUP!! Since you made a copy of your applications (see "How to copy a disk" in the Addendum), nothing has been lost there.

Fortunately, however, all of your documents **might** not be lost.An excellent commercial product, *SUM*, (Symantec Utilities for the Macintosh) is highly recommended for recovering disk and hard drive crashes (among its other useful functions) preferably installed before a crash.

7. Rebuild Your Desktop The Macintosh screen is called the desktop. Each time you open, close or move an application/file, the Mac remembers and builds an invisible file of remembrances. The file can grow to (approx.) 256K and can slow down startup, cause confusion and even crashes. Periodically it is helpful to hold down the **Command/Apple** & **Option** keys when turning on your Mac and wait for the dialog box:

Click **OK** and the invisible file will be erased. Be aware that any information in the Get Info box may also be lost. ←

Virus Rx

8. Viruses Much has been written in the national press about viruses. Yes, they are out there and they do cause damage. They can be obtained from a Laser Parlor, downloaded off a BBS (**Bulletin Board System**), from a friend's disk,

from a commercial disk, on a new hard drive, etc. If your System Folder grows without your adding to it, if your Mac acts erratically or if you see a generic Scrapbook Icon or Clipboard Icon in your System Folder, your computer **may** have a virus — and that spells trouble with a capital T!

BMUG offers a disk, **Utilities 8**, that contains a myriad of virus checkers to help in cleaning up your computer disks. Documentation for its use is included.

Some rules of thumb for what you can (should) do: take a locked disk to a Laser Print Shop—viruses can't get onto a locked disk; be aware of your sources; check all new disks for viruses.

Font/DA Mover

9. Font/DA Mover The Font/DA Mover is used to add or delete fonts and DA's (desk accessories) from your System. When we both first tried using the Font/DA Mover, we felt completely hopeless and helpless. We find it a lot easier now that we use it more often.

When the Font/DA Mover is first launched you are presented with a dialog box:

Click the **Open** buttonunder the side not showing any fonts. You are presented with a dialog box asking you what you want opened. Select the one you want and click **Open**.

You will be presented with another dialog box. aelect the one you want in the list box and click **Copy**.

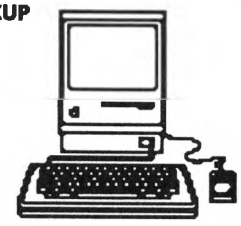
To see the DA's installed in your System, click the radio button labeled **Desk Accessories** in the dialog box.

10. Join a User Group Get out and join a **local** Macintosh user group. There's no sense going it alone when plenty of people want to help and to share their successes (and failures too!). If you're a BMUG member, you can call our helpline, but a close-by group can be much more helpful in many circumstances. Call Apple at 1-800-538-9696 ext. 500, give them your zip code, and they will give you the address of the nearest MUG. Enjoy.

REMEMBER:

1. One System in one System Folder
2. If unable to open a document by double-clicking, Open the application first
3. Start simply, building upon confidence - KISS
4. Make copies of all your applications, documents and programs
5. Enjoy your INIT's, one at a time
6. Backup!
7. Rebuild your desktop, quarterly
8. Be alert for viruses
9. Play with the Font/DA Mover
10. Join a local User Group

HOW TO MAKE A BACKUP (COPY A FLOPPY DISK)



Disks Needed: **Original** (Source) Disk, **Blank** (Destination) Disk

If you have only one Drive(Internal), no second Drive(External) and no Hard Drive then follow Procedure A:

Garry Raddatz is a BMUG volunteer and employee in the Disk Duplication Department.

Manny Roizen is a BMUG volunteer who is especially helpful on the helpline in the mornings when nobody else is around.

Both are still beginners at Heart.

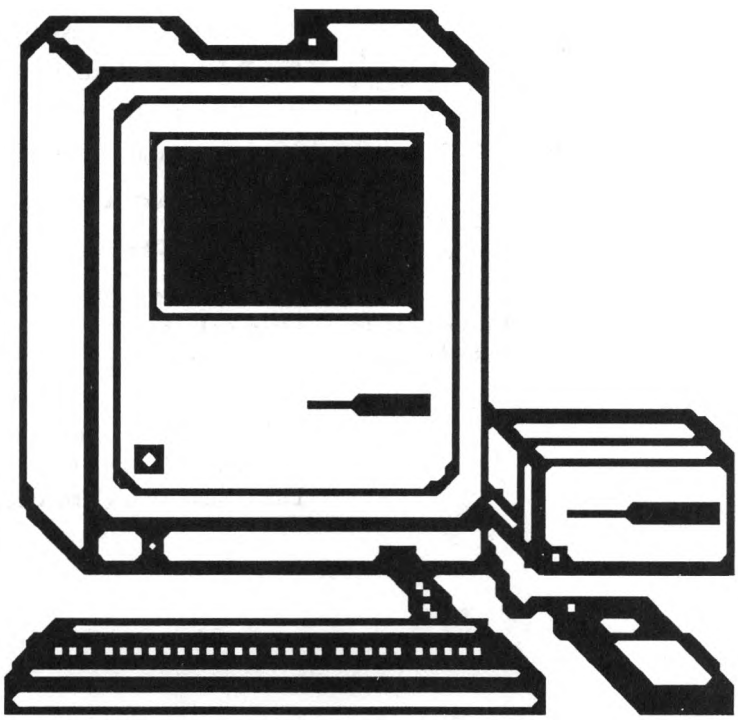
PROCEDURE A

1. Insert the Blank (Destination) Disk in the Drive
2. If it has never been used before, you will be asked if you want to format it. Do so if you are **sure** it isblank and empty. Click One-Sided for a 400K Disk or Two-Sided for 800K Disk. When the initializing is complete, you will be asked to name the disk—name it with the name of the Original Disk plus the word "Backup"
3. Eject this Destination Disk
4. Insert the Original Disk; now there will be two Icons on your Desktop
5. Drag the Icon of the Original Disk onto the Icon of the Backup Disk
6. Your computer will then tell you—repeatedly—to eject one disk and insert the other disk until the copying is complete...be patient, you will not really get elbow tendonitis !
7. Hand label the Backup Disk.

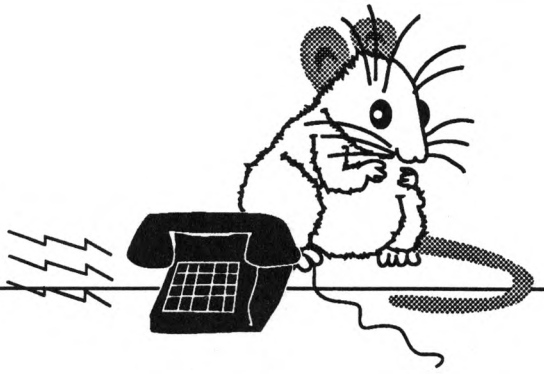
If you have two drives, An Internal and an External, follow Procedure B:

PROCEDURE B

1. Insert the Blank (Destination) Disk in the External Drive
2. If it has never been used before, you will be asked if you want to format it. Do so if you are **sure** it isblank and empty. Click One-Sided for a 400K Disk or Two-Sided for 800K Disk. When the initializing is complete, you will be asked to name the disk—name it with the name of the Original Disk plus the word "Backup"
4. When this is done, insert the Original Disk in the Internal Drive; there will now be two Icons on your Desktop
5. Drag the Icon of the Original (Source) Disk onto the Icon of the Backup (Destination) Disk
6. When this copying is complete, you can eject both disks
7. Hand label the Backup Disk.



Communications - Networking



A BMUGger's Guide to the InterNet

Bernard Aboba
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BMUG Goes Global

The BMUG BBS is now one of the best-connected online services available anywhere. Not only do we carry FidoNet and USENET conferences, but BMUG members can send UUCP mail. Judging from the volume of UUCP mail being sent from BMUG BBS, many of you have already figured out how to send mail to your friends all over the world.

Like most powerful tools however, learning to take full advantage of it can be somewhat mystifying. In this article, I'll give hints on how to send mail all over the world using the BMUG BBS, in the hopes of getting you to try it yourself. In the process, you'll probably make some discoveries, and I'd very much like you to share these with me, so that we can make this collective wisdom accessible to the members.

Kudos to the Developers

The developers of the FidoNet/USENET gateway software, (called UFGATE) which made this all possible, are: Tim Pozar, Garry Paxinos, and John Galvin. UFGATE translates USENET news and UUCP mail into FidoNet form (and vice versa), allowing FidoNet bulletin board systems to receive USENET conferences, and to send receive UUCP mail. UFGATE is available for MS or PC DOS computers running the QuickBBS, OPUS, or Fido Bulletin Board Systems.

Caveat Mailor

It is important to understand that we **cannot** guarantee the privacy of the UUCP and FIDO mail you send, because it is not encrypted, and because it often passes through many computer systems before reaching its ultimate destination. Furthermore, BMUG SYSOPs reserve the right to examine all messages on the BMUG BBS, private or otherwise, in order to insure that the BBS is being used in a lawful manner. In addition, it should be understand that private messages on the BayMAC conference can be read by all the Bay Area SYSOPsreceiving the conference. Please use good judgement, and do not use the BBS to mail information that would cause harm if it were made public.

Special Addresses on BMUG BBS

Before getting down to the details of global e-mail, I would like to share some hints about extra features we've added to the BBS. In order to better serve our members worldwide, we have set up special mail addresses on the BMUG BBS to which users can send mail to get help with membership problems, to submit articles for the newsletter, to get info on BMUG, or help with a technical problem. These special addresses are:

Address	BMUG Department
Help	Technical Support
Info	BMUG General Information
Pub	Publications
BBS	BBS bug reports and questions
Mail	E-Mail problems
Biz	Business Office

These special User ID's are primarily meant for communicating with users on the ARPA and UUCP networks, rather than users of the BMUG BBS itself. If you have a question you need answered while on BMUG BBS, please post a public message to ALL in the BMUG LOCAL message section.

To people sending ARPA and UUCP mail to BMUG, these addresses operate just like other user id's on the BMUG BBS. You can address mail to these id's just as if they were normal people. For example, a user on the ARPANET could get information on bmug by sending mail to:

`bmug!info@apple. COM` or `info@bmug. fidonet. org`

For more information on UFGATE, contact:

Tim Pozar

2215-R Market St.

Suite 188

San Francisco, CA 94114

(415)391-2657

Fido 1:125/406

Through use of these special ID's, it is now possible to order BMUG Disks, renew your membership, submit newsletter articles, or ask for help electronically. No matter where you are in the world, you can reach BMUG!

The PostMaster Doesn't Ring Twice

Needless to say, the global connectivity afforded by the BMUG BBS is a great resource. As BMUG PostMaster, I've gotten a great many questions since the last newsletter on how to reach overseas computers, and on how to use the UUCP mail facility in general.

In order to help out, I decided to make up a list of examples on how to send mail. Be warned, however, that not all the techniques presented here have been tried; therefore there is some chance that the mail might bounce back. Bounced mail will come back with an error message from our UUCP host. If you get such an error message, please send me a note, and I'll try to figure out what went wrong. If you figure it out before I do, and you discover a way to send mail that isn't included in this article, you are hereby morally burdened to send me mail about it, so we can put an update in the next newsletter.

The addresses given here work equally well on the BMUG BBS, or on MailCom BBS in Palo Alto. To reach MailCom instead of BMUG, just substitute "mailcom" for "bmug" wherever the latter appears in a mail address.

In order to help out with sending UUCP mail, I've enclosed a few sample BBS sessions at theback of this article.

Glossary

In the following tables a field enclosed in "<>" should not be typed literally. Rather, this field needs to be filled in with information appropriate for the specific circumstances. For example, `<User. Name>` means your User Name on BMUG BBS. For example, if someone were sending a mesage to me, they would substitute **Bernard. Aboba** for the `<User. Name>` field. A field like `<WELL ID>` or `<ID>` refers to a User ID on a Commercial Service. For example, if your WELL account is `BOZO`, you would substitute `BOZO` for the `<WELL ID>` field.

The `<host 1>` and `<host 2>` fields refer to hops in the UUCP mail address. In UUCP mail, the message goes from one machine to another until it reaches the final destination. The best way to figure out UUCP addresses is to ask the recipient for their mail address. Very often, their return address will be included in the "signature" field of messages they post on USENET.

The `<node>` field refers to the ARPANET node name, often within a given University or firm, as in `<node>. berkeley. edu`; an example of a `<node>` field would be `ucbvax` as in `ucbvax. berkeley. edu`

Mail To and From Commercial Services

Although it isn't widely known, several commercial services are now experimenting with gateways to the InterNet. Among the services recently installing an InterNet gateway is AppleLink. This means that in principle, BMUG members can send mail back and forth to Apple employees. Of course, USENET connected services like Portal or The Well already offer UUCP mail, and BMUG members may send mail back and forth to these services.

To & From Commercial Services

Service Name	TO Service	FROM Service to BMUG
WELL	pacbell!lamc!well!<ID>	lamc!pacbell!apple!bmug!<User. Name>
Portal	cup. portal. com!<ID>	sun!apple!bmug! <User. Name>
AppleLink	applelink. apple. com!<ID>	<User. Name> @bmug. fidonet. org@DASNET #
Examples:		
WELL	pacbell!lamc!ari	lamc!pacbell!apple!bmug!Raines. Cohen
Portal	cup. portal. com!John_Doe	sun!apple!bmug!Raines. Cohen
AppleLink	applelink. apple. com!UG0001	Raines. Cohen@bmug. fidonet. org@DASNET#

TO InterNet From BMUG

Network Name	TO Network
Berkeley	<node>. berkeley. edu!<user ID>
ARPANET	<node>!<user ID>
BITNET	forsythe. stanford. edu!<node>. bitnet!<user ID>
CSNET	relay. cs. net!<node>! <user ID>
UUCP (West Coast)	ucbvax. berkeley. edu!<host1>!<host2>! <user ID>
UUCP (East Coast)	decwrl. dec. com!<host1>!<host2>! <user ID>
UUNET	uunet. uu. net!<host>! <user ID>
Examples:	
Berkeley	monet. berkeley. edu!jane
ARPANET	ararat. stanford. edu!bernard
CSNET	relay. cs. net!uchicago!wilson
UUCP (West Coast)	ucbvax. berkeley. edu!apple!mailcom!bernard
UUCP (East Coast)	decwrl. dec. com!decvax!cornell!jim

Sample Session

In this sample session, I send a UUCP message to myself at Stanford, and scan for messages in the sci. electronics conference which deal with capacitors. In the transcript that follows, my typing is **highlighted**. Don't rely too heavily on the following example, as it is more than likely that the BBS menus will have changed (hopefully for the better) by the time you read this article.

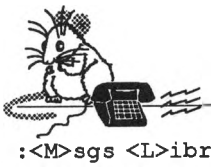
```
::::::::BMUG  BULLETIN  BOARD  SYSTEM::::::::::::USENET  MESSAGE  AR-
EAS::::::::
:<M>sgs <L>ibrary <I>nfo <C>onference <G>roups <O>ptions <B>ack up <Q>uit:
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
BMUG BBS UseNet message areas. Type the # to see messages in a
particular area, or press M to go back to the normal BMUG BBS (FIDO)
messages, from local to EchoMac.

AREA 1: UMAC - comp. sys. mac, general Macintosh discussion
```

```
AREA 2: UMACP - comp. sys. mac. dev, Macintosh programming
AREA 3: UHYPE - comp. sys. hypercard, HyperCard discussion
AREA 4: UMACD - comp. sys. mac. digests, Macintosh msg Digests.
AREA 5: UNEXT - comp. sys. next, NeXT computer discussion. TWO-WAY.
AREA 6: UUCP Mail - Electronic mail to other UseNet systems
AREA 7: UPOSTSCRIPT - USEnet comp. lang. postscript newsgroup
AREA 8: UELECTRONICS - usenet electronics discussion
AREA 9: <unused>

USENET AREAS: Type a # to select a msg area, <M>sgs, or <H>elp?
SYSOP: <-> Maintenance
Command: 6
::::::::BMUG BULLETIN BOARD SYSTEM::::::::::::USENET AREA 6 - UUCP::::::::
:<M>sgs <L>ibrary <I>nfo <C>onference <G>roups <O>ptions <B>ack up <Q>uit:
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
UUCP - UseNet private mail area. Post private messages here to UseNet
users the world over. Address your msg TO: UUCP, and make sure the first
line of the BODY of the msg (NOT the subject line) reads "To:ucbgarnet!jbx"
or
whatever the address is. Put a  space by itself on line two of your message
(press space, then return), and then type the content of your message. If
you have difficulty, post a message to BERNARD ABOBA with your question.

UUCP: <S>can <R>ead <P>ost msgs <A>rea list or #, <, or >, <H>elp?
SYSOP: <D>elete msg <-> Maintenance
Command: p
Who is the message to? UUCP
What is the subject? Test for BMUG Newsletter
To: UUCP
Subj: TEST FOR BMUG NEWSLETTER
Is this correct(Y/N)? y
Submit Prepared Msg Text(Y/N)? n
Enter text of message.
<CR> by itself ends input.
01: To: ararat. stanford. edu!bernard
02:
03: Here is the body of my message. Note the address on line 1.
04: I put a space on line 2, AND NOTHING ELSE!!!! This prevents
05:  the wonderful TBBS software from wordwrapping line 2 onto
06: the top of the mail address. Notice alsohow the message is.
07:  addressed To: UUCP when responsinding to the TBBS queries.
08: You MUST include an address on the first line of the message,
09:or the message won't make it outside of bmug.
10:
<L>ist, <V>iew, <C>ont, <E>dit, <R>cpt, <S>ave, or <Q>uit? s
Saving message to disk. . .
::::::::BMUG BULLETIN BOARD SYSTEM::::::::::::USENET AREA 6 - UUCP::::::::
```




```
:<M>sgs <L>ibrary <I>nfo <C>onference <G>roups <O>ptions <B>ack up <Q>uit:
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
UUCP - UseNet private mail area. Post private messages here to UseNet
FFFF
Command: 8
::::::::BMUG BULLETIN BOARD SYSTEM::::::::::USENET AREA 8 - UELECTRONICS:
:<M>sgs <L>ibrary <I>nfo <C>onference <G>roups <O>ptions <B>ack up <Q>uit:
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
UELECTRONICS - UseNet electronics newsgroup. Two-way public messages.

UELECTRONICS: <S>can <R>ead <P>ost msgs <A>rea list or #, <, or >, <H>elp?
SYSOP: <D>elete msg <-> Maintenance
Command: s
Type P to pause, S to stop, N to skip to next msg
<F>orward Scan
<R>everse Scan
<N>ew Message Scan
<S>elective Scan
<A>bort Scan
Which One? s
Select <F>rom, <T>o, or <S>ubject? s
Enter text to select by: Capacitor
Mark for Later Retrieval? y
Section has 516 Msgs, #44260 to 51487
Starting number, <CR>=First: 44265

Msg#:44274 *UELECTRONICS*
05-05-89 11:59:00
From: BOB MYERS
 To: ALL
Subj: RE: ANOTHER CAPACITOR QUESTION
Mark(Y/N/S)? Y
Msg#:48917 *UELECTRONICS*
05-28-89 14:17:00
From: W. THIEL
 To: ALL
Subj: CAPACITORS
Mark(Y/N/S)? Y
Msg#:50797 *UELECTRONICS*
06-06-89 00:57:00
From: GREG CORSON
 To: ALL
Subj:╨"SUPER" CAPACITORS == BATTERIES?
Mark(Y/N/S)? Y
Msg#:51274 *UELECTRONICS*
06-09-89 10:46:00
From: VASO BOVAN
 To: ALL
Subj: CAPACITOR-LOST JOULES
Mark(Y/N/S)? S
::::::::BMUG BULLETIN BOARD SYSTEM::::::::::USENET AREA 8 - UELECTRONICS:
```

```
:<M>sgs <L>ibrary <I>nfo <C>onference <G>roups <O>ptions <B>ack up <Q>uit:
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
UELECTRONICS - UseNet electronics newsgroup. Two-way public messages.

UELECTRONICS: <S>can <R>ead <P>ost msgs <A>rea list or #, <, or >, <H>elp?
SYSOP: <D>elete msg <-> Maintenance
Command: r
Type P to pause, S to stop, N to skip to next msg
<F>orward or <R>everse Multiple
<N>ew Messages
<M>arked Messages
<S>elective Retrieval
<I>ndividual Message(s)
<A>bort Retrieve
Which One? m
Pause after each msg(Y/N)? y
Msg#:44274 *UELECTRONICS*
05-05-89 11:59:00
From: BOB MYERS
 To: ALL
Subj: RE: ANOTHER CAPACITOR QUESTION
From: myers@hpfcdj. HP. COM (Bob Myers)
Date: 27 Apr 89 20:11:00 GMT
Organization: Hewlett Packard ╤ Fort Collins, CO
Message-ID: <11170001@hpfcdj. HP. COM>
Newsgroups: sci. electronics
> Can I substitute a non-polorized, electrolytic capacitor for a polorized
>one? Thanks in advance. And thanks for all the very informative replies
I
>received from my previous question about capacitors.
Yes, but you probably won┌t want to. Non-polar electrolytic capacitors
are much more difficult to find (hence more expensive) than similar polar
types. They┌re pretty much a"╜╥special applications only" part.
Bob Myers KC0EW HP Graphics Tech. Div. " Opinions expressed here are not
 Ft. Collins, Colorado " those of my employer or any other
{the known universe}!hplabs!hpfcla!myers " sentient life-form on this
planet.
╤
 * Origin: MailCom Public USENET HST apple!mailcom (415) 855-9548 (Opus
204/444)
<A>gain, <R>eply, <N>ext, or <S>top? S
```

FROM INTERNET TO BMUG

Network	From Network	to BMUG
Berkeley	apple!bmug!<User. Name>@sun. COM OR	<User. Name>@bmug. fidonet. org
ARPANET	apple!bmug! <User. Name> @sun. COM OR	<User. Name>@bmug. fidonet. org
BITNET	apple!bmug! <User. Name> @sun. COM OR	<User. Name> %bmug. fidonet.
org@stanford		
CSNET	apple!bmug! <User. Name> @sun. COM OR	<User. Name>@bmug. fidonet. org
UUCP	apple!bmug! <User. Name>	
Examples:		
Berkeley	apple!bmug!Jane. Doe@sun. COM OR	Jane. Doe@bmug. fidonet. org
ARPANET	apple!bmug!Jane. Doe@sun. COM OR	Jane. Doe@bmug. fidonet. org
CSNET	apple!bmug!Jane. Doe@sun. COM OR	Jane. Doe@bmug. fidonet. org
UUCP	apple!bmug!Raines. Cohen	

To Outside Networks from BMUG

Outside Network	TO Outside Network
ACSNet (Australia)	uunet. uu. net!munnari!<host>. OZ. AU!<user ID> OR
	seismo. css. gov!munnari!<host>. OZ. AU!<user ID>
CDNNET (Canada)	relay. cs. net!ubc. csnet!<host>!<user ID>
COSAC (France)	relay. cs. net!france. csnet!<host>!<user ID>
CSNET	relay. cs. net!<host>!<user ID>
DEC ENET	decwrl. dec. com!<host>. DEC!<user ID>
JANET (UK)	CS. UCL. AC. UK!<host>!<user ID>
JUNET (Japan)	relay. cs. net!japan. csnet!<host>!<user ID>
MAILNET	MIT-MULTICS. ARPA!<host>. MAILNET!<user ID>
NSFNET	ucbvax. berkeley. edu!host!<user ID>
VNET (IBM)	IBM. COM!<host>!<user ID>
XEROX	XEROX. COM!<user ID>. <registry>

From Outside Networks To BMUG

From Outside Network	to BMUG
ACSNet (Australia)	<User. Name>%bmug. fidonet. org@munnari. oz
CSNET	<User. Name>@bmug. fidonet. org
DEC ENET	DECWRL::"<User. Name>@bmug. fidonet. org"
JANET (UK)	<User. Name>%bmug. fidonet. org@uk. ac. ucl. cs
JUNET (Japan)	<User. Name>@bmug. fidonet. org
MAILNET	<User. Name>%bmug. fidonet. org@mit-multics

To Foreign Countries From BMUG

Country	From Country to BMUG
Austria	seismo. css. gov!tuvie!<host>!<user ID>
Belgium	seismo. css. gov!prib2!<host>!<user ID>
Denmark	seismo. css. gov!diku!<host>!<user ID>
Finland	seismo. css. gov!tut!<host>!<user ID>
France	seismo. css. gov!inria!<host>!<user ID>
Great Britain	seismo. css. gov!ukc!<host>!<user ID>

Italy	seismo. css. gov!i2unix!<host>!<user ID>
Iceland	seismo. css. gov!hafro!<host>!<user ID>
Korea	relay. cs. net!kaist. csnet!<host>!<user ID>
Netherlands	seismo. css. gov!mcvax!<host>!<user ID>
Sweden	seismo. css. gov!enea!<host>!<user ID>
Switzerland	seismo. css. gov!cernvax!<host>!<user ID>
West Germany	seismo. css. gov!unido!<host>!<user ID>

From Foreign Countries To BMUG

Austria	seismo. css. gov!apple!bmug!<User. Name>@tuvie
Belgium	seismo. css. gov!apple!bmug!<User. Name>@prib2
Denmark	seismo. css. gov!apple!bmug!<User. Name>@diku
Finland	seismo. css. gov!apple!bmug!<User. Name>@tut
France	seismo. css. gov!apple!bmug!<User. Name>@inria
Great Britain	seismo. css. gov!apple!bmug!<User. Name>@ukc
Italy	seismo. css. gov!apple!bmug!<User. Name>@i2unix
Iceland	seismo. css. gov!apple!bmug!<User. Name>@hafro
Korea	kaist. csnet!relay. cs. net!apple!bmug!<User. Name>
Netherlands	seismo. css. gov!apple!bmug!<User. Name>@mcvax
Sweden	seismo. css. gov!apple!bmug!<User. Name>@enea
Switzerland	seismo. css. gov!apple!bmug!<User. Name>@cernvax
West Germany	seismo. css. gov!apple!bmug!<User. Name>@unido

To Contact BMUG from Online Services:

BMUG volunteers constantly monitor other information services, so they are available to answer your questions regardless of where you choose to log-on. You can reach BMUG at the following electronic addresses:

AppleLink ..... UG0001 (for general Info)
AppleLink ..... UG0127 (for technical assistance)
CompuServe 73237,501
FidoNet 161/144
InterNet ..... `bmug@garnet.berkeley.edu`
UseNet ..... `ucbvax!garnet!bmug`
BIX ..... BMUG
GEnie ..... BMUG
Delphi ..... BMUG
MacNET ..... BMUG
MCI Mail ..... BMUG
The WELL ..... BMUG

Me, a NetAdmin?

Autobiography of a Macintosh network administrator

by Stephen Howard

It's the downside of increased productivity, the big gotcha of being a power user at work. Someday, inevitably, your boss will approach you to use your Macintosh knowledge for something more than what is included in your job description. For some, the extra work is a newsletter; others are asked to take a look at a departmental database. You agree, and the slippery descent into indentured servitude begins. In this way, an unlucky few each year are pressed into becoming network administrators.

Out of every ten Macintosh network administrators, at least eight are working on their lunch breaks, after hours, and while they should be doing their real jobs. Managing a network is the purgatory of the personal computer aficionado. The job falls somewhere between the hell of filling out handwritten forms in triplicate and the paradise of playing with neat computer stuff all day. Being a NetAdmin is a job no one asks for, few get paid for, and every one depends on. If it happens to fall on your shoulders, brace yourself for the long haul, because once you start you usually can not back out until you find a replacement. And once your co-workers see how much work is involved, volunteers will be few and far between. This article will give you advice — partly tutorial, partly anecdotal — on how to be a good

NetAdmin.

Why me?

We all know that some tasks can not be tacked onto a normal working day without disrupting the work you are supposed to be doing. When the task is computer-related, however, those who do not know how to do it themselves often do not know how much work is involved. If you are cynical, you might also imagine that your boss looked into hiring someone to do the job but was scared off by the prices computer experts command. So you get asked to do this extra work because you are the local, already salaried, computer expert.

Whatever your suspicions, network administrators become network administrators because they can do the job, and even in the most high-tech, computer-embracing companies there are usually few people who can. The other sad, self-evident truth about network administration is that if your company asks you to be a NetAdmin, your company probably needs a NetAdmin. Refusing the job is a gamble, because you too will be a victim of any catastrophe. (To be honest, if the file servers, printers, and electronic mail break down, you will probably be hurt more than most, since you are probably more dependent on the network than your average co-worker.) The job of NetAdmin may be unavoidable, so when facing it your best tactic is to make sure that any conversation including the words "network administrator" does not fail to include the word "raise." Money is a wonderful balm, even for the pains of purgatory.

Where to begin?

Becoming network-savvy is a slow and haphazard process. The resources available are few and far between, and many of them won't make sense to you. Worse, the problems and solutions are often specific to a particular network configuration. If you ask people who know, they will tell you that networking is a black art. The best you can do is learn everything about your network and act based on your experience, but you have to be careful how you gain that experience.

The most important rule of managing a network is **Be Conservative.** Lots of people are affected by any change you make, and you may not be aware of the repercussions. Even tiny things can cause a hassle. For example, if you change the name of a printer, everyone who had that printer as a default

choice must select it again through the Chooser. Even if you tell everyone in advance, a certain number of people will not understand why they get a "Printer not found" error on Monday when they are doing exactly the same thing they did Friday. Remember that small changes get multiplied by the number of users on the network.

When you do make changes, choose the best time and try not to inconvenience people. Don't incapacitate any network service during the work day, if you can avoid doing so. Part of the joy of being NetAdmin is staying late, so you can work with the network after everyone else has gone home. Trying to do network maintenance before work is a gamble, because if something goes wrong no one can start the day until you solve your problem. Ask yourself how well you work under pressure.

Learning about your network, then, is different from learning about your personal computer. With your computer you can fiddle around. As long as you **Save** your work frequently and keep a recent backup, nothing you do will be unrecoverable, and only you will suffer inconvenience. If you fiddle with your company's network, your coworkers will hate you. Nevertheless, in order to be a good NetAdmin you have to know what your network is composed of and what it is capable of; you have to take look under the hood.

What's under the hood?

Understanding your network begins with learning the elements of networks and how they interact. This basic knowledge is surprisingly hard to come by. My experience has shown that there are three categories into which all network knowledge can be placed: Services, Topology, and Traffic. The categories are interrelated and are listed in order of increasing complexity. The definitions of the categories are my own:

Services are simply what the users can do with the network. Printing is a service and so is print spooling. File sharing, electronic mail, access to distant networks or databases are all services. Typically, users are concerned only with services, which can be a benefit. If everything about your network is wrong, but the services still work, no one will hassle you. If, on the other hand, you "improve" your network and impair a service, you had better watch your back.

Topology is the physical layout of the network and the hardware and software running on it. These are the details that NetAdmins have to know about, and to do a good job they have to know all about them. If you understand your topology in your bones, then you are doing a good job and can probably manage your network well.

Traffic is what is really going on in a network, the transfer of information in various formats. The concept of network traffic is not too difficult to grasp for anyone familiar with the concepts behind computers. But the real-world relationship between the amount and kind of traffic for a given set of services on a given topology and the overall performance noticeable to users is understood by very few people. I don't understand it, and I am not sure I have ever met anyone who does.

When starting as a new NetAdmin, you will need to know what services are available on your network, which will probably not be a problem. Then you have to learn the existing topology and try to understand how it works. If you are unlucky (like I was), the topology will have problems relating to traffic, and you will have to discover how to maintain the right amount of traffic. Even if you don't have traffic problems, your company may want to implement new services that will require a new topology. Whatever the reason, after learning the services and topology, the first thing new NetAdmins should do is evaluate whether these are appropriate. Too often, the answer is no.

How did I get into this?

Thinking back on how I became a network administrator, I have to admit I was an easy target. A long-time BMUG volunteer with previous experience managing a bunch of Macs, I practically had "NetAdmin" tattooed on my forehead. Being a new employee didn't hurt, either. They got me within the first month on the job, in September 1988. The sum of my network knowledge at the time was that you shouldn't connect LocalTalk in a circle and that printing with different versions of *Laser Prep* reset

the printer. Suddenly I was in charge of 52 networked Macs, a half-dozen printers (including a Linotronic 300), two file servers, and the electronic mail. The months it took me to learn networking and network management can serve as an example to those in a similar position.

In taking initial stock of my new charge, I learned that no one in the company understood the network. We were paying a consultant to come in each week and maintain it (I'll explain why later), the wiring had been done by an outside party, and the network hardware and software were chosen by circumstance. The whole thing did work, but no one knew why.

We were using *AppleShare 1.1* for file sharing, *Microsoft Mail 1.36* for exchanging messages, and the *LaserWriter 4.0* driver for printing. The network cabling was Farallon's PhoneNet connectors running over our phone system with two of Farallon's StarControllers somewhere in the middle. *AppleShare* was running on two file servers: One was a Mac II with an external 120-Meg Racet Computer hard disk, a 40-Meg Apple internal hard disk, and 1Meg of RAM; the other other was a Mac SE with a 20-Meg Apple internal hard disk and 1 Meg of RAM. *Microsoft Mail* was running on the Mac II server as well. The individual Macs on the network were running various versions of the *System* and *Finder*, ranging from 5.0 to 6.02, but everyone was already using the same version of Laser Prep.

Describing this scenario to experienced NetAdmins usually makes them cringe, but discovering what was wrong with this setup took me many weeks. I'll present it in condensed form along with what I did about it.

There were too many Macs. Apple's documentation and other easily-accessed sources of network information say you should not have more than 32 devices on a single network. What they don't tell you is why, or what happens if you go over the limit. They also use terms confusingly, so you are not really sure what a network is when you finish reading them..

So there I was managing a network of 52 Macs and several printers that worked even though all the manuals I read said it should not. In my search for an explanation of this situation, I found that the manuals written by Shiva for their networking products, in particular the NetBridge and TeleBridge, contained the best information for a beginner on network topology. They didn't tell me why my network worked, but they did provide answers for future questions.

In the end I learned that AppleTalk's limit of 32 devices is a recommended limit, which you can exceed at your own risk. As you increase the number of devices on the network you increase the likelihood of information getting lost as it moves around. That likelihood is determined more by how busy each device is than by the total number of them on the network (i.e., it is the amount of network traffic that determines the right number of devices in a network). Figuring out my network traffic statistics was a bit beyond me at the beginning, so I did not bother. To do so, you must run some network analyzing software. The one everybody uses is Apple's *Inter•Poll*, but Farallon also offers good software for this purpose. However, the best software in the world is no good unless you can understand what it tells you, and there is no software available that makes the concept of network traffic clear or useful to a beginning NetAdmin. More's the pity.

My problem remained, despite my enlightenment. My alternatives were to kill 20 co-workers or divide my network into zones by using routers. The advantage of simplicity was definitely with the former. Routers, zones, internets, bridges and gateways are confusing terms, and I knew using routers would mean spending money and changing the basic topology of the network. Even had I been eager to implement a new topology (I was not), my second problem prevented me for some time from taking any significant actions.

The wiring was a mess. Some Macs were connected to others using visible cables, while most were simply plugged into the phone socket on the wall. No one knew which Macs were connected to which ports on the StarControllers, because no one knew where the wires in the phone closet went. The one thing I had in my favor was that I knew how the PhoneNet system worked, so

nobody had to explain to me how we could run the computer network off the phone wires.

Maybe you are not so lucky, so here is a quick description of how PhoneNet works. Normal telephone cables have two sets of twisted wires inside them, and each set contains two wires (that's why phone cabling is also called "twisted pair"). Most phone systems only use two wires (a few rare ones use all four); PhoneNet uses the remaining two for the network.

Using PhoneNet was not one of my problems. In fact, by using it I avoided a common problem that afflicts networks run over Apple's LocalTalk cabling. LocalTalk connectors come apart easily, but the connectors on phone cable (called RJ-11 connectors) are pretty secure. PhoneNet-compatible connectors from other vendors worked fine too, but Farallon's technical support did help me out on a number of occasions, so I recommend their connectors for the most part, even though they are more expensive. Apple's LocalTalk cables and connectors are really expensive, and there isn't any good reason to buy them.

My big problem was the phone closet. It contained the object of my worst network nightmares: the punchdown block. At the punchdown block, the two pairs of wires from each phone line are separated and sent their different ways. The ones for the network run into and out from the StarControllers, the ones for the phone system go to wherever phone wires go. This whole mess was unlabeled and indecipherable. I quickly realized that nothing short of calling the phone company and telling them to come in and figure out where each connection went could bring this forest of thin wires under control. That step was extreme and expensive, so I avoided it. I had learned we would be moving out of the building in a few months, and I decided to wait until then to tackle the wiring and the whole problem of network topology.

If you find yourself in a similar situation — and without my convenient excuse — you should call the phone company and get them to label each connection at the punchdown block. Without that information, you will never be able to balance a large network or trace bad connections, because you will not know which Macs are connected together.

The next problem was the really juicy one. This is where I began to live the life of a NetAdmin for real...

The servers were underpowered and poorly chosen. A newer version of *AppleShare* was available when I took over the network, my company even had a copy, but no one had installed it. The two servers were pointlessly divided. One of them had only 20 Megs of storage space while the other had three unused 20-Meg partitions. The user lists that *AppleShare* needs were different between the two servers, so some users could log-in to one but not the other. Inside the server volumes, I found lots of files that should have been trashed long ago and lots of folders with security settings that prevented people who needed access to their contents from opening them. To top all this off, there was no backup. In sum, the server situation was a complete mess.

To bring the servers up to speed and to learn how they should be configured, I read the *AppleShare* manuals cover to cover. You have to do this if you are going to be use *AppleShare* . The software is pretty straightforward, and the manuals are well written, so this is not as bad as it may sound. However, the fact that the Administrators Guide is 230 pages long is a bummer. Inside those pages, I learned that my file servers were overloaded, which was a nasty surprise. According to Apple, an *AppleShare* server with only 1 Meg of RAM can handle only 25 simultaneous users, and a server with more than 1 Meg can handle up to 50 users. Now, I never tested this limit explicitly, but I am sure that in normal use my servers handled more than 25 simultaneous users even though they had only 1 Meg of RAM. My guess is that these numbers are simply recommendations, just like the number of devices on a network.

The servers were one problem I could handle immediately. The first change to be made was to upgrade from *AppleShare 1.0* to *AppleShare 2.0*, which like so many things these days was upgraded Version 2.01 before it got into users' hands. At this late date the reasons for the upgrade are moot. Suffice to

say that for a modern network running current software, you must use *AppleShare 2.01* or later.

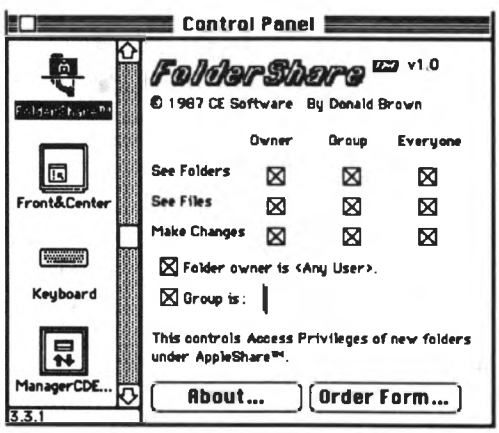
To utilize the unused space on the larger server, I got a big hard disk and backed up all the files. Then I reformatted the server, defined new partitions, and restored the files. To be complete, the process of backing up a server has to be done while *AppleShare* is not running, otherwise you do not copy the server software and *System* files. I combined the two servers, so the smaller one became a volume on the larger one. I moved the server software from the internal hard disk on the Mac II to the external one, so I could switch machines in a pinch. The Mac SE that had been used as a server became a stand-alone electronic mail server.

The Racet software for formatting their disk drives is functional but not at all friendly. The drive requires a special Startup document to mount any volumes beyond the first onto the Desktop. Not knowing this, I put the server software on the wrong volume and rendered my server unavailable until I found a floppy disk with the Startup document on it. Changing the SCSI ID number on Racet drives does not work as you might expect either, so be sure to read the documentation if you use one (or if you use Jasmine's DirectDrive XL disks, which are manufactured by Racet).

The contents of the server were more of a problem, because they mostly belonged to other people. I began a campaign to have users clean up their folders and throw away unused files. That worked, and I recovered many megabytes for future use. The problem of security was more sticky, and I did not handle it well. When people would call and complain that they couldn't get into a folder on the server, I would look at the privileges of that folder to find out its owner and then call the owner to ask if the complainer could be given access. Invariably, the answer was yes, but most of the time people did not understand my question. Thus I learned the hard way that *AppleShare* can be a pain when it comes to security.

When you create a new folder on an *AppleShare* volume, the default settings make that folder accessible to you alone. When people are using the server to share files, this habit can become annoying and counter-productive. CE Software has a nifty utility called *FolderShare* that changes automatically the access privileges on new folders to whatever you want. I found out that most people on my network were using *FolderShare* to make new folders accessible to everyone. I asked the different departments whether they wanted a general scheme of security on the server, and they usually said no — although again I am not sure they understood the question.

To discover which folders were protected, I printed out a full report for the server. Boy! Was that a mistake. The printing job took hours and produced dozens of pages of mindless directory listings. Finding all the protected folders in the report would have taken many hours of incredibly boring reading. So, rather than discover where each



protected folder was, I simply wiped all security off the server by making all folder accessible to everyone, and sent a message to everyone telling them what I had done.

Looking back, I realize that was a mistake. It was not the wrong decision to make, but it was the wrong way to make the decision. Being NetAdmin gives you the power to force sweeping changes at will, but you have to be careful to avoid making changes just because they make your job easier. What I should have done is talked to people in each department and explained the advantages and hassles of security on the server, and made sure they understood. I should have sent messages to upper management telling

them to remove any sensitive files from the server before I laid their folders open to all eyes (I did send such a message after the fact). Though I still cringe at the thought, I should have gone through that voluminous report and asked each person owning a protected folder whether they minded my making it public.

Luckily, no one got hurt because of my impatience. As it turned out my company really had no need for secure folders on the server. People tended to keep sensitive files on their own hard disk and sent them to each other either on disk or through the electronic mail system. Given that a file server is generally used for file sharing, I would encourage any NetAdmin to consider making all server folders publicly accessible. This is a pretty radical idea and I know all the Novell NetAdmins out there are having fits, but doing so greatly reduces the hassle and confusion for users and yourself. But if you do it, do it the right way.

The remaining problems were taken care of pretty easily. I requested an additional megabyte of RAM for the server and got it, and I requested a second large hard disk for backing up the server. Now, I will not argue this point any more than necessary, but I do not like or trust tape backups. I am aware that many people use tape drives to back up their data and are quite happy with them. However, I am also aware that many network administrators who use tape have lost data much more frequently than I like. Furthermore, tape drives are slow, popular tape capacities are too small, the software available is poor, and competing tape drives are not compatible. Worse, if something really serious happens to your server's hard disk, you can not run a server off a tape cassette. You need a second large hard disk to restore the tape onto. The only advantage of tape is the inexpensive media allows you to make archival backups. On my network, I was not interested in archival backups. I simply wanted as recent a duplicate of the server as possible, and copying the contents of the server onto a second hard disk made this task faster, more reliable, and much more convenient than using a tape drive.

Unfortunately, backing up a server is still no picnic. As I write this, no Mac software can perform the jobs I believe are critical to backing up a file server. These jobs are: 1) Perform the backup automatically at specified times; 2) Copy multiple volumes onto a single volume; 3) Maintain files in *Finder* format and retain all access privileges; and 4) Copy the Server Folder containing the server software and user list. The last one may not be possible, so I would settle for just the first three. Until software is available that can do all this affordably, I will continue to back up my server using *Finder*, which at least does two of the four.

The electronic mail was unreliable

My first several months as a NetAdmin were spent mostly wrestling with *Microsoft Mail*. I can not really say anything good about it, so I will be brief. We were running the version of *Microsoft Mail 1.36* geared for networks with 21 or more users. Microsoft has not updated this program significantly since it was first written in 1985, and it has serious problems with large networks. All electronic mail messages in *Microsoft Mail* are stored in one large data file on the server. This scheme provides for fast performance finding and deleting messages. Unfortunately, the space occupied by messages was not fully recovered when those messages were deleted, so this big data file kept getting bigger and bigger every day. When the file became about 10 Megs, *Microsoft Mail* would crash and the data file would become corrupted. All messages would be lost, and even opening the file with editors like *MacSnoop* did not reveal its contents.

The people on my network are a talkative bunch, we send about 2,800 messages a week, and the data file on the server would reach the 10-Meg limit every couple of weeks. This problem was discovered before I became NetAdmin by a consultant doing some work for us. She tracked the problem down and was able to get two utilities from Microsoft that helped alleviate the problem. The first utility was called *Microsoft Mail Backup*, and it compressed the data file by recovering the space left over from deleted messages. The second utility was a Startup document that would shut down the mail system whenever the data file became too large. Using these utilities, we were pro-

tected against data loss but were inconvenienced by sudden shutdowns and by the need to run the compression utility every week. That's the job the consultant was doing each Friday morning until I became NetAdmin and inherited the task.

After several weeks of working with this brain-dead software I became fed up and resolved to change to another electronic mail system. The compression process was not difficult, but the software was very rough and crashed if you did anything unexpected (like put the data file outside the Server Folder). The spontaneous shutdowns sometimes occurred when the data file was only five or six megabytes, which translated into once or twice a week even after I ran the compression utility. So I gathered together ten volunteers and began testing *QuickMail 1.0.5*.

One of the nice things about the way electronic mail is implemented currently on the Macintosh is that you can run different mail systems at the same time on the same network. They do not share any resources and so are invisible to each other. The people testing *QuickMail* were able to run *Microsoft Mail* at the same time. The two systems could not exchange messages, however, which is one of the not-so-nice things about the way electronic mail works on the Macintosh. After a month of testing, we switched to *QuickMail*. We had problems with this software too, but nothing that threatened a general loss of all messages. In several cases where users could not access their mail, I was able to recover it simply by copying the files from the mail server.

The problems with *QuickMail 1.0.5* were all solved with Version 2.0, which came out a few months afterward. *QuickMail* is still more troublesome than I would like, and in total hours spent it does require more maintenance than *Microsoft Mail*, but there isn't the threat of losing messages. Maintenance time with *QuickMail* is spent helping users who crash. On the cleanest, simplest Mac, a heavy user of *QuickMail* will crash occasionally while using it. Most often the crashes occur when replying to a message or when reading a message that was sent to everyone on the network. CE Software can't duplicate the problem, but I have seen it too many times to not believe it's there. All in all, I like the trade. *QuickMail* is finicky, but it is also feature-rich and has lots of expansion options, while Microsoft is still trying to write a Version 2.0 of *Microsoft Mail*. *QuickMail* also had a big advantage over *Microsoft Mail* because *QuickMail* is sold by CE Software and *Microsoft Mail* is sold by Microsoft. You can call CE and get intelligent, timely help. You can call Microsoft and get a busy signal.

The Macs were running the wrong *System*

My last problem was also the simplest to solve. The Macs on the network were running old system software and everyone was using old LaserWriter drivers. Solving this problem simply meant spending the time to go around to every Mac and install the latest System software with the latest printer drivers. I also used the opportunity to install other needed software, like *FolderShare, Vaccine, QuickMail,* the LaserWriter Plus screen fonts, and the driver for Shiva's NetModem.

The task took a long time, and I hope never to have to do it again. When I used the *Installer* on my own computer, I thought it was pretty good, but when I had to run through the same process 52 times, I got fed up. Apple should write an *Installer* that runs over the network. I know that such a thing would be quite difficult to write, but I also know that I and many other NetAdmins would pay lots of money to avoid updating each machine individually.

Once the ugly job was done, however, life as a NetAdmin got easier because I didn't have to troubleshoot a bunch of different *System* versions, and the newer LaserWriter driver makes it possible to use Apple's *Print Server* software should I want to. (After a brief experiment with it, I decided I did not want to use it, but I may change my mind.) The security problem was taken care of, the new electronic mail was installed, and I even had some basic protection against viruses. After the server was updated and rearranged, my network settled down and I was a happy NetAdmin for a while. The punchdown block still haunted me, and I was still running 52 Macs on one big network, but I had reached a state of stability, which is what you really want from your network. There were

problems to be worked out, but none were emergencies. During this restful period I prepared myself for the next challenge.

Who's afraid of Ethernet?

My big excuse for not changing the hardware setup of my network was the upcoming move to a new office. The intervening months gave me time to come up to speed on the software and background concepts of Mac networking. But the months did pass, and when we moved the new network was going to incorporate Ethernet. Ugh.

Immediately upon finding out about this upcoming change I rushed a message to my boss explaining that on-the-job training was fine for LocalTalk-compatible networking and Macintosh software, but the world of Ethernet was beyond me. Shameless, true, but accurate. In retrospect, Ethernet isn't so complicated, but at the time it seemed like Nuclear Engineering. So my boss did a smart thing and hired a consultant with experience to install the network. He did, everything worked out fine, and this is how he and I went about it.

The building we were to move into was new, so we got to choose the kind of wiring we wanted. (There is a diagram of what we ended up using at the end of this article. Refer to it if you get confused in the next few paragraphs.) We chucked the phone/network sharing and installed separate sets of wires for the phone system, for the LocalTalk network (still based on flatwire), and for Ethernet (based on "twisted quad" — essentially phone cable with twice as many wires in it). This route is expensive but also expandable. We were purchasing a 10-year lease on this new site, so we wanted to be prepared for anything.

An integral part of installing the new wiring was the application of a numbering scheme. This is the main thing that separates my currently well-behaved network from the earlier horror of the punchdown block. The scheme is pretty simple. Every cubicle and office that has a set of phone and network connections also has a number. That number is written on the wall-connectors and on the blueprint. The punchdown block has the same number written on the appropriate collection of wires. We bought some large, rack-mounted banks of RJ-11 and RJ-45 connectors, which are connected to the punchdown block. Each connection on this bank is numbered the same as everything else. Because of this system, I am able to trace wiring problems through the whole network. To make it work, however, you must make absolutely sure that the numbering system is consistent and accurate, and the only way to ensure that is to test every single connection after it has been installed.

We tested our wiring and thought it was sound, but later discovered that a few connections were mislabelled. Believe me, when installing a new network, you do not want to have to remember, for example, that all numbers over 75 are actually two digits off. Make sure your wiring is done and finished before you hook up computers, or you will go crazy if mistakes come up later.

This stage of installing the network was one of the more rewarding. Despite my lack of training, I got to walk around an empty office site carrying a blueprint under one arm, talking complete gobbledygook. It was oh so high-tech. If you are able to do something similar, enjoy it and make sure your fellow employees see you in action. They will be impressed.

Because the wiring all leads to the phone closet, that room is the natural place for the network hardware to reside. In my situation, we had to share the closet with a giant Northern Telecom digital phone switch, so I ended up keeping the server machines elsewhere, but I would strongly recommend keeping everything together. There are two good reasons for this: security and convenience. You can lock a phone closet, usually, so if your office gets robbed the thieves will grab the Macs off peoples' desks rather than out of a locked room — you hope. The data on the server is almost always harder to replace (and therefore is more valuable) than an individual's. There are increasingly common reports of canny, Mac-aware thieves who know which computers to take. Chances are, if you have a largish network your server machines are among the more expensive computers in the office. You do not want to make them easy targets. The other reason to keep the network equipment together is simple convenience. When

there's a problem that requires hands-on work, having everything in one place will speed your solution.

The standard office wiring method of running connections from every cubicle to the punchdown block in the phone closet makes implementing a star topology on the network quite easy, since every office is connected directly to a physical center. Although both AppleTalk and Ethernet make it easy to connect computers and devices in series, there are some administrative benefits from using the star topology. The main benefit is knowing that there are a minimum number of interfering variables between each computer and the center of the network. That makes tracking down problems a lot easier. The other benefit is that stars give you a nice fudge factor in adapting your network. You can add devices to a star, and even branch a couple devices off one part of a star, while keeping the overall topology relatively simple. Ad hoc branching of a linear network quickly produces a mess. So the topology we chose for our new network was a big star connected to smaller stars at two ends.

At the center of my little networking universe was an economy-sized Synoptics Concentrator, essentially a large, ugly, beige box with several slots for multi-port Ethernet cards. The Concentrator is a nice piece of hardware, perfectly suited to the kind of network we were building. Each card in it handles some number of Ethernet connections on a certain kind of cabling. You get to buy the number and kind of cards you need, and Synoptics sells cards for virtually any cabling system you would want. We bought three cards with eight twisted-quad connectors on each, producing 24 Ethernet ports coming out of the central hub of the network. This all cost several thousand dollars, of course, but it fit the bill exactly and gave room for doing whatever we wanted, with whatever cabling we wanted, in the future.

Synoptics uses non-standard wiring in their twisted-quad Ethernet, but they are so popular their non-standard way has become something of a standard. When using a Synoptics Concentrator, however, you need to make sure that the Ethernet cards you buy for the Macs have Synoptics' chips on them, so they will work with the Concentrator. We used Kinetics EtherPort cards, which do have the chips, so that wasn't a problem. If we had bought 3Com's Ethernet cards, which do not have the chips, nothing would have worked.

Two of the Ethernet ports in the Concentrator led to Kinetics FastPath 4s. The FastPath is a combined bridge/router/gateway between Ethernet and AppleTalk. It is a wonderful piece of hardware that was plagued with problems in earlier incarnations but which has licked them with Version 4. Essentially, you plug Ethernet into one side of the FastPath and AppleTalk into the other and, voila! you have a link between two dissimilar networks. The FastPath also checks every piece of information that comes into it and decides whether to send the info across the link or not. For example, if a piece of data is sent from one AppleTalk device to another and the FastPath is in the middle, the FastPath will see that the data is meant for another AppleTalk device and will let it pass through to its destination but will not send it over into the Ethernet side. The same checking process happens with Ethernet traffic, keeping it out of the AppleTalk network. The checking function is called **routing,** and it reduces the total traffic on each side of the FastPath.

Let's take a little moment here to go over this icky network terminology. The FastPath is a device that serves as a good example, because it does almost everything that can be confusing about networks. I've just described the routing function, so I hope that part is clear. Routing is necessary for maintaining large networks. When NetAdmins talk about breaking a network down into smaller pieces, they are speaking of putting in routers. Each side of a router is called a zone. In my site the AppleTalk side of the FastPath is one zone and the Ethernet side is another. Zones can be the same type of network, and there are several products that will route traffic within all-AppleTalk networks. Zones can be in different types of networks, as well. Zones usually have names that the NetAdmin chooses and numbers that the network uses to identify them. The area within a zone is properly referred to as a network, and all the zones together are called an internet.

Here's a helpful NetAdmin analogy: Think of your phone number as the network address of your phone. If your town is small, then seven digits are enough to give unique addresses to all phones. In larger phone systems, however, you need to divide the phones into groups to provide enough addresses. For phones, those groups are area codes, for networks those groups are zones. The entire phone system is analogous to the internetwork, and each group of phones served by an area code is a network. The twist in this analogy is that in networks, the need for zones arises out of the network traffic rather than the number of devices connected (there is an obvious relationship between the two, however). With computers you want to put the busy computers into logical groups so that the bulk of the traffic between them is isolated from the rest of the network. If this were done with phones, you would have a special area code for all families with teenagers, since they are much more likely to call each other than any other phones.

Bridges are devices that connect different kinds of cabling and translate the data formats of one network into those of another (AppleTalk to Ethernet, for example). Their presence and activity should be completely invisible to the user. In our phone analogy, bridges are the hardware that carries your phone call across copper cables, satellite connections and whatever else. In my network, bridges connect twisted-pair and twisted-quad cabling.

Gateways do something a lot more complicated, they translate data formats so that applications running on different kinds of networks can understand each other. Most applications handle data differently, and in order for them to exchange data a gateway is needed that can translate from one to the other. Making gateways is hard, but if they are done right, their activity should also be invisible to users.

So, the FastPath 4 on my network acted as both router and bridge. It separated traffic in both zones (router) and it connected dissimilar cabling (bridge). To do all this quickly enough, it needs good software and some real hardware horsepower. The FastPath 4 has a 68020 processor, the same as in the Mac II, and 2 Megs of RAM. It can act as a bridge into TCP/IP networks running over Ethernet (another data standard used by big computers), but I had no need for that at my site — knock on wood.

On the AppleTalk side of the FastPath, we placed Farallon StarControllers. These serve as (I promise this will be the last new term for a couple of pages) **multi-port repeaters**. A repeater takes in the electrical signal carrying network data and amplifies it, so it remains strong and can be carried long distances. The StarController does this to all data coming in any of its 12 AppleTalk connectors. By placing a multi-port repeater at the center of a network, you ensure that all signals will be sent strongly to all connected devices on the network.

The resulting network topology is simple to imagine and, therefore, simple to manage. I will summarize the arrangement briefly. There are two AppleTalk zones, consisting of 30-odd Macs and several printers each, connected in a star topology with two or three devices hanging off each branch of the StarControllers. Each StarController is connected to a FastPath 4, which bridges AppleTalk and Ethernet and routes traffic between zones. The Ethernet zone between the two FastPaths is connected by a Synoptics Concentrator.

We spent a lot of money installing this simple network. The office wiring (especially the redundant triple wiring) and testing, the StarControllers (although we already had those), the FastPath 4s, the RJ-11 and RJ-45 connector blocks, the Synoptics Concentrator, and the Ethernet cards for the Macs all cost a pretty penny, but the resulting internetwork is stable and well-suited to future growth and change.

After putting all this together, the last step in installing my new network was getting users up and running. As people unpacked their Macs in their new cubicles, I crawled around plugging in their PhoneNet connectors and making sure the wires got connected to the right connector in the wall. This is the dirty part of being a NetAdmin and the reason you have to impress people whenever you can, because otherwise they will think of you as the person who spends half his time on the floor underneath their

desk. Almost all the software we use worked in a multi-zone, AppleTalk/Ethernet internet without modification. The *Chooser* desk accessory automatically recognizes the presence of zones and adds a list to itself. We chose which people went in which zone by job function, so it made sense that the printer used by the advertising department was physically near them and was located in their zone on the network. Users adapted quickly to the new network.

The servers were placed in the Ethernet zone, connected directly to the Synoptics Concentrator, and the heaviest users, those who copied 10-Meg files on to and off of the server regularly, got Ethernet cards, too. Later this year, we hope to get the new RIP 3 processor for our Linotronic 300, and we intend to put an Ethernet card in that as well. Despite the huge difference in theoretical speed between standard AppleTalk running on LocalTalk and Ethernet, people on my network only noticed a doubling or tripling of speed when copying files to and from the server. That was enough of a difference to please them, but you should not assume that Ethernet will be noticeably faster for everyone. When copying a 10-Meg file, cutting the transfer time in half is a big improvement. When copying a 10K file, however, cutting the time in half only saves you a couple of seconds. Unless you spent your whole day copying 10K files, the difference would not be worth the expense. Electronic mail and modem-sharing showed no significant improvement when done over Ethernet instead of LocalTalk.

As a representative of Dayna Communications said to me the other day: Don't think of higher-speed networks as moving everything around faster; think of them as allowing you to move more data in a given time period. That's wise advice for any Network Administrator.

What else is out there?

Anybody using computers, and particularly a whole company using computers, really has to get connected to the outside world through telecommunications. So many services, so many sources of useful information exist, beyond your network that part of being a NetAdmin is accommodating the need to go outside and talk to the world. Increasingly, modems are considered a part of the network, so they become your problem. Good luck!

In general, people at my company use modems a lot, and a handful could not do their jobs at all without them. The solution we used (and still use) was to simply give the most active people their own modems and phone lines and to use a shared modem for everyone else. While this system works, it is wasteful. A better solution, one we will be implementing in the next few months, is to have a bank of shared modems that everyone can use and to have enough of them that the people who really need modems can always get one. The simplest way to do this today would probably be to buy a whole bunch of Shiva NetModems or TeleBridges and standard modems. Version 3.1 of the Shiva software allows users to select all of the available modems and connect to whatever one is free. That is a critical feature since you do not want to make everyone try each modem individually.

When designing our new network, however, we chose to use our digital phone switch to do that checking for us. The Meridien phone system from Northern Telecom has the capacity to control a bunch of modems and find a free one. All you need is a phone that has a serial port on it and software that can send special codes to the phone switch telling it to grab a modem. You also need the modems and modem-controller cards for the phone switch. All this is quite expensive. Phones with serial ports cost a bundle, and the modem-controller cards really cost a bundle. But that's what we decided to use. I can not report on our success or failure because the whole setup has not been installed yet (another problem with going this route, you need a Northern Telecom technician to put it together). I do know one problem that is waiting for me already. Some of the telecommunications software we use cannot be modified to send the necessary commands to the phone switch. Specifically, *Desktop Express* from Dow Jones Software is stubbornly immutable, and because we use it exclusively to access MCI Mail, we will have to stop using MCI Mail once the new modem-sharing system is in

place. Remember what I said about "improving" a network and losing capabilities? This is a case in point.

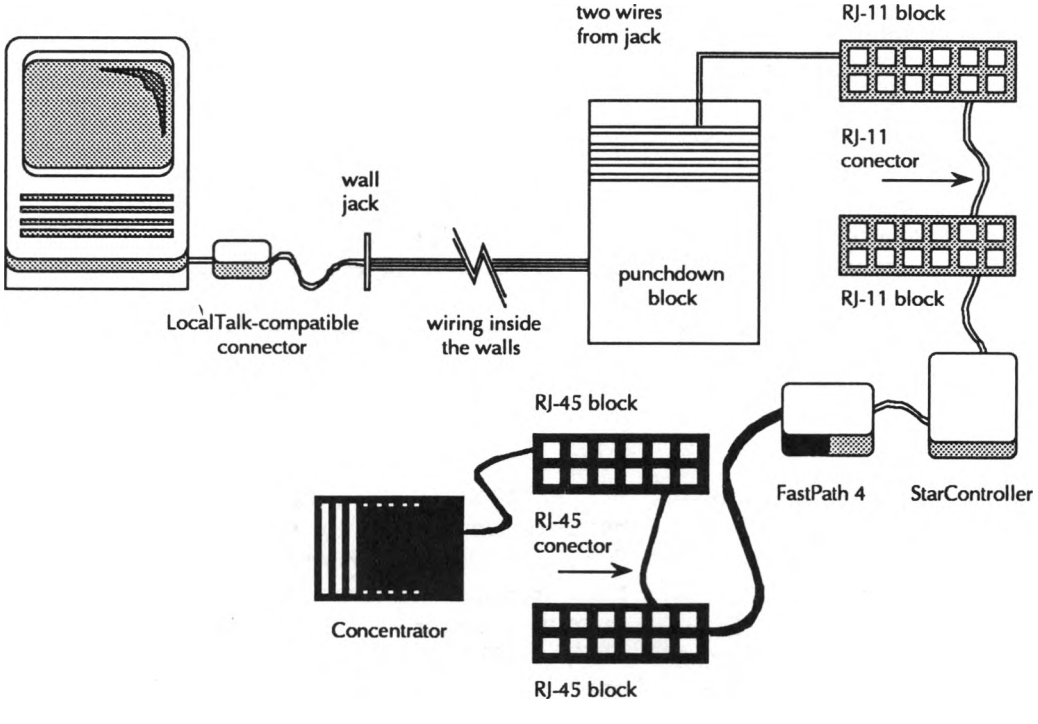
The other way we use telecommunications is to exchange *QuickMail* messages with our Boston office. This part of things works well and could work even better if I just put in the time to do it right. One of the basic features of *QuickMail* is sending mail between mail servers in distant networks over the phone lines. Setting up this exchange is pretty simple, you just hook up a modem to the mail server and run *QuickMail*'s administration program. At predetermined times or when a set number of messages is waiting, one mail server calls another and exchanges mail. The only glitch in this process is that *QuickMail* sends Hayes commands to the modem, so it really only works with Hayes-brand modems at speeds higher than 9,600 baud. Since mail messages are usually small, I have been satisfied with 2,400 baud.

Using *QuickMail*'s scripting language or their special bridges, which are technically gateways, you can have your mail system retrieve message from commercial services like GEnie, Compuserve, MCI Mail and MacNet or from any BBS you know well (like the BMUG BBS). I have experimented with this kind of transparent connectivity but have not taken the plunge into setting the whole thing up. I have heard from others using similar mail systems that automatic pickup of messages from online services is helpful and a real time-saver, so I will certainly try it out.

Stephen Howard is the network administrator for a Macintosh weekly newspaper and SYSOP of the MACNETADMIN forum on the BMUG BBS.

What's it all about, anyway?

Becoming your company's live-in network administrator is not a job most volunteer for, but it does not have to be all bad. Being a NetAdmin is as much a learning experience as becoming a computer user. The rules are a little different but there is a great sense of accomplishment when you finally know and control the network upon which your company depends. By careful thinking and experimenting you can improve the ways you and your co-workers use computers. Being a NetAdmin will raise you almost immediately to guru status if you weren't there already, and it can provide an added element of job security if you play your cards right. The future of Macs and computers in general is to be found in networks. Having your own to learn on and play with puts you in a great position to see what is coming down the pike. At times the job seems dull, but in many ways it becomes the cutting edge.



Introduction to the IBM 3270 Network

by Jennifer Menge

IBM first introduced its System 360 mainframes in the mid-1960s. In the early 1970s these systems evolved into the System 370 mainframes we have today. With the System 370 series of mainframes, IBM was the first company to offer a line of mainframes that allowed upgradeability and compatibility between different models. Previously, mainframe vendors forced their customers to completely abandon their current hardware and software when newer models were released. As a result of this compatibility, the IBM 3270 Networks are among the most common computer networks in the world. The only difference between models of the System 370 line is the amount of memory and processing speed.

IBM has divided its various models of computers into families or series. During the late 1970s, IBM introduced the 303X models. This was followed by the 43XX and 308X models in the early 1980s. The most recent entries in the System 370 family are the large 3090 models, sometimes called the Sierra systems, and the small 9370 mid-range line. The processing power of different machines in a family may vary greatly, however, software written for one machine can be run on other machine in the same family relatively simply and cost-effectively.

The 3270 networks were developed in order to allow users who are located away from the mainframe computer to have access to the processing power and application programs of the mainframe. Although the 3270 systems have evolved since their introduction, and the capabilities of the networks have increased, the basic concept of the 3270 network has remained the same.

3270 Network Components

A 3270 network consists of five major hardware components; each has its own associated software. The five major 3270 hardware components are listed below:

Host (Mainframe Computer)

Front End Processor (Telecommunications Controller

Modems

Cluster Controllers

Terminal Devices

Mainframe Computer

The heart of the 3270 system is the mainframe computer. The mainframe may also be called the **Host** computer or **Central Processing Unit(CPU)**. IBM designed the 3270 Network based on a master-slave hierarchy with the mainframe computer serving as the master. The 3270 network is built around the premise there would be one central facility that commanded the network. The mainframe computer consists of hardware, and software. It supplies the processing power for the network, operating system(s), as well as stores the applications. (Programs such as word processors, graphics, databases). The operating system controls the use of the CPU resources and oversees and coordinates the execution of programs.

The operating system(s) on the mainframe computer serve the same function as DOS does on a personal computer and Finder on the Macintosh.

Currently, there are three operating systems that can run on the System 370 hardware:

DOS	Disk Operating System
MVS	Multiple Virtual Storage
VM	Virtual Machine

Running underneath the operating system are programs called Transaction Processors. The transaction processor manages the interaction between an application program (i.e. a spreadsheet, word processor etc.) and

the user.

The major transaction processor found on the System 370 are:

CICS	Customer Information Control System
TSO	Time Sharing Option
CMS	Conversational Monitoring System

Occasionally people will refer to the operating system by using a transaction processor name. In most shops which are running DOS, will have CICS as the transaction processor, MVS shops will run TSO, and VM shops will run CMS. Many users will combine the terms (i.e. VM CMS, MVS TSO) or use them interchangeably.

Telecom Controller

The Telecommunications Controller, often called the Front End Processor (FEP) or simply the Front End, is a hardware unit which attaches to the host computer and allows remote Cluster Controller Units to communicate with the mainframe via modems. Some of the smaller systems, such as the 43XX series, do not use a separate Front End Processor, the functions of the Front End are handled by the mainframe. The most common Front End Processors from IBM are the 3705, 3720, 3725 and 3745.

Modems

Communications between the Front End Processor and the Cluster Controller are accomplished over communication lines. These lines are normally dedicated transmission lines, although standard dial-up phone lines may be used.

In order to communicate over these lines, synchronous **modems** are used. These modem may work on either half or full duplex. Most modems found in the 3270 networks are either 4800 or 9600 bps (bits per second). Speeds up to 19,200 bps are supported.

Cluster Control Units

The Cluster Control Unit, simply called the Control Unit, acts as an interface and communications hub between the network and the end user devices. Peripheral devices are attached to the Cluster Controller via coaxial cables, which may be up to 5000 feet (1500 meters) long.

Three classes of cluster control units are used: Integral Control **Units, Local** controllers and **Remote** controllers.

Integral Control Units (ICUs) are built into the mainframe and are generally found on the 43XX series mainframes.

The local cluster controller, sometimes called a chan**nel-attached controller** is attached to the channel of the host computer. The local cluster controller is attached to the mainframe via Bus and Tag cables. The maximum length of the cables is 200 feet. The local controller is attached to the channel and therfore does not interface with the Front End Processor.

Remote cluster controllers are those not connected to the mainframe. They communicate with the front end processor using synchronous modems.

The most common control units found in the 3270 network are the IBM 3276 Control Unit Display Station and the 3274 and 3174 Control Units. The various models of these controllers determine their functionality.

Terminal Devices

Two major types of terminal devices are used on a 3270 network: Display terminals and printers. Both the terminals and printers are attached to the ports of the cluster controller via RG-62AU coaxial cable.

A large variety of display terminals may be used in a 3270 network. The display terminals may be divided into two categories: CUT (Control Unit Terminal) devices and DFT (Distributed Function Terminal) devices.

CUT devices, which are the more common, are non-intelligent (dumb) terminals, with no standalone processing capabilities. The cluster controller not only handles the communications between the CUT device and the network.

DFT devices are intelligent, having processing capabilities of their own. DFT devices have numerous functions available which are not possible with CUT terminals. These include the ability to run multiple logical sessions on a terminal and the ability to support All Points Addressable (APA) graphics.

The most common terminal devices used in the 3270 networks are the 3278 (monochrome and the 3279 (color) terminals. These, as well as other display terminals used in 3270 networks, are available in various models. The model number, or mod, of 3278s and 3279s refers to the number of characters which may be displayed on the screen.

Model Rows	Columns Characters
2	80
24	1920
3	80
32	2560
4	80
43	3440
5	132
27	3564

Communication in a 3270 Network

The 3270 network is a communications system. In order to communicate, all the components must use a certain set of rules, or protocol.

Two major protocols are used in 3270 systems: Binary Synchronous Communications (BSC), which is sometimes referred to as Bisync, and Synchronous Data Link Control (SDLC).

BSC is the older of the two protocols and is being replaced by the newer SDLC protocol. However, due to the expense of converting from BSC to SDLC, many users have yet to change.

SDLC is normally used as the data link layer of IBM's System Network Architecture (SNA). SNA is a layered architecture which specifies how devices connect and communicate with one another. These devices are referred to as **network addressable units** (NAUs). NAUs have addresses that identify their routing location in the network, so that end users can transmit data to each other. Network addressable units include three categories of devices: logical units, physical units and System Services Control Points.

Logical Units (LU) are protocols which provide end users with access to network resources and manage the transmission of information between end users. Five types of LUs are defined.

- LU type 1 is for application programs which communicate with workstation in an interactive, batch transfer, or distributive processing environment using an SNA character string (SCS) or Document Content Architecture (DCA) data stream.
- LU type 2 is used to communicate with a display station in an interactive environment.
- LU type 3 is used to communicate with a printer using the SNA 3270 data stream.
- LU type 4 is for applications programs which communicate with data processing or word processing workstations.
- Lu type 6.1 is for application subsystem to communicate with another application subsystem.
- LU type 6.2 supports sessions between two application programs.

A physical unit (PU) manages and monitors the resources of a physical node. Four types of physical units are used in 3270 networks.

- PU type 5 resides in the host.
- PU type 4 resides in the front end processor.
- PU type 2.1 resides in control units and has the ability to communicate directly with adjacent type 2.1 nodes.
- PU type 2 resides in control units and can communicate only with a PU type 4.

System Service Control Points (SSCPs) reside in the host and activate, control, and deactivate network resources.

Conclusion

The IBM 3270 communication networks are among the largest and most numerous data communications networks in use today. The wide variety of devices which may be used on 3270 networks, together with the numerous applications available, will insure the popularity and continued use of 3270 systems in the foreseeable future.

Networks and the Loss of Privacy

by Robert Holland, ©1989 Robert Holland

In third grade my mother chaperoned a class excursion to Stan Hywet Hall in Akron, Ohio, for a small city fair. At the fair, the police had set up a booth where they would ink your fingers and capture your prints. To an 8-year-old, that was irresistible, and many of my classmates came away with inky fingers, treasuring large, white cards smudged with dark blue blotches.

I left that fair unmarked by India ink because my mother said that the police were building fingerprint files (they weren't), that those boys who were printed would be drafted for military service in Vietnam, and that I should not be so willing to give up personal information. She lectured me that there was no pressing need to surrender such data since I was not a suspect in any crime. She was convinced that when people collect information from you, it's never in your best interests.

That was 1967, the Vietnam war was in full gear, and there was a national paranoia about police and government. But now, as a computer network manager and bbs sysop, I think often of privacy, the need to protect it, and how difficult it is to keep data to yourself in this computer age.

What is privacy worth? Does information about you belong to you? Should it be given only at your discretion? And once given, is the receiver obligated to protect that data? Organizations (government and private) have spent billions of dollars to gather personal data, and the day is rapidly approaching when they will open their databases and share that information with each other—or with the highest bidder. The avenue they will use will be computer networks.

For instance, DMVs across the US are now networked together. When you get a speeding ticket in Macon County, Georgia, the officer can access your driving record from California's DMV, and if you are a problem driver there, he might decide to take you off the streets for a while.

Not only do police have access to the national driver database; but rail, freight and air carriers do too. When you apply for a job with the railroad, they can check your driving record with a phone call. That seems well and good for protecting the public safety, but who monitors the use of that data? Could it not be possible that an employee is denied a promotion because of a speeding ticket from last summer's vacation? I don't believe that is happening today, but as our society becomes more competitive, such data-based discrimination could very well happen, and it would be practically undetectable.

Few Legal Rights to Data Privacy

It takes a long time to build a body of law around an industry, and computer technology is far ahead of laws pertaining to privacy. Computers are taking away privacy faster than the law can protect it. For example, while it is illegal to listen in on a phone conversation, it is not illegal to read private electronic mail after it has been sent. Furthermore, although electronic bulletin boards use terms common to the postal service, the law does not recognize parity. Private email can be opened and read with impunity by those with access.

I believe the laws pertaining to privacy rights will be developed by litigation, not legislation. Our legislators have no jurisdiction over the FCC or the phone companies, and few of them are computer-literate enough to understand the future and protect our privacy.

There has been a dearth of privacy litigation in the last decade, but I see a storm brewing where certain new technologies have been applied to the time-honored traditions of the unlisted phone number and the independent trucker. A computer-literate attorney in the 1990's stands to make a lot of

money either attacking or defending the privacy of personal information.

The Principle of Network Management Clashes with Privacy

At the heart of the privacy problem is the concept that system administrators must have absolute control over their computers. Electronic systems are not autonomous; they need care and nurturing. In order for a network or an electronic messaging service to function, it must have a system administrator who has access to everything on the service, private or not. This is the person who decides how the service will operate, and who may have access to it. In effect, this person is an overlord, and users are serfs.

All users must obey the system administrator, whether tyrant or benefactor. It's rare to find a dispassionate system administrator. In business, the administrator's career is at risk when the system doesn't work. In the realm of private electronic bulletin boards, the sysop owns the hardware and has invited you into his or her house. Even on the Fidonet public message network, where messages don't truly reside on any one computer, you'll find emphasis on obeying Fidonet rules.

To keep the email file to a reasonable size, the sysop regularly removes older messages and either discards them or archives them. On the Prodigy information service, your private messages stay online for 14 days (28 days if you request), then are discarded, whether received or not.

With such absolute power over their systems, sysops can easily trample your privacy. When you post a private message on BMUG, for instance, it's read by at least one BMUG sysop. The BMUG sysops try to be discreet, but they'll speak up if your private message would benefit others or if your private message advocates such illegal activity as copying commercial software.

When you send a private message out over a Wide-Area Network (like BayMac), you are sending it to every bbs on the network. That makes your private message available to each sysop on the network.

Who Listens to Your Voicemail?

The privacy problem is not limited to public bulletin boards. Professional email services are springing up all over, thanks to the popularity of computer dating. Entrepreneurs have adapted voicemail systems to make message services for a variety of causes. Voicemail is not an answering machine; it's a computer connected to the phone line that digitizes your voice and saves it to disk. Although clients have private account numbers and access ID numbers, the digitized messages all reside in one computer database, and can be listened to by anyone who knows how to get to them.

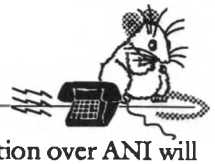
When you leave a message in a voicemail system, how do you know that your message isn't being heard by others as well? How do you know that your message was destroyed after it was received? What if the voicemail messages are backed up to tape every night? Who listens to the messages besides the person you wish to speak to? You are at the mercy of the voicemail system administrator.

Legally, there is no guarantee of privacy in these services. The record of your digitized voice is not covered by our slow-to-adapt body of law. Do you want your message to be stored on tape for some possible future use? Who owns your message—you or the person who owns the medium on which it is stored? These issues have yet to be resolved by the law.

You Can't Hide Those Prying Eyes

The police and FBI typically confiscate any computer used in a crime, even if that computer hosted a public bbs. Once they have the machine, any data stored within its hard drive— or on its backup diskettes—is fair game, and can be used as evidence. So far there have been no successful legal challenges to this procedure because most cases have been cut-and-dried credit card and phone billing fraud perpetrated by youths.

In general, detectives don't need a warrant to examine confiscated data. They only need a warrant to confiscate the hardware and disks. That means any private message from you that was saved to disk can be scrutinized by an officer who does not have your best interests in mind. This is what puts pressure on bbs sysops to read your private mail. Sysops don't want to



be implicated in any crime conducted on their computer through private electronic mail (the most likely of which is the selling of commercial software).

So far, the FBI has not seized a professional voicemail system as evidence. When that happens, we'll begin to see challenges to the executive branch's examination of confiscated data. This could really break loose when the FBI tries to use as evidence voice analysis techniques on the digitally perfect voices stored on a voicemail computer. The FBI might even use a voicemail system in sting operations, collecting evidence automatically.

ISDN Cometh

The promise of the all-digital ISDN network is that it will replace our low-quality voice telephone lines with super-clear voice, data and video. It also brings along interesting privacy-defeating services like Automatic Number Identification (ANI). With ANI, whomever you call has your phone number as soon as you connect, whether or not your number is listed in the phone book. (The emergency 911 service operates this way; the police get your phone number and address before you speak.)

ANI is popular now among the customer relations departments in large companies. With ANI connected to a customer database, the person you call has a computer display of information about your account even before you speak.

In fact, companies have had to learn to hide the fact that they know who's calling. American Express is a case in point. When a customer called, the AMEX person would answer the phone using the caller's name. The caller would pause for a long while, then ask, "How do you know who I am?" AMEX learned quickly to dummy up, letting the customer initiate the conversation.

Despite complaints, the phone companies counter that ANI will put an end to obscene and crank phone calls because you'll have the caller's number. Of course, from a phone booth your heckler can remain anonymous. The loss of private phone numbers seems a high price to pay to handicap problem callers.

It's probable that litigation over ANI will be the first to set down laws for electronic privacy. Traditionally, the phone company has protected your privacy with unlisted phone numbers (and the phone company makes you pay for that service). ANI breaks that tradition (There's no way for ANI to differentiate between listed and unlisted phone numbers).

Traffic Control Networks

In the future, not only will using your telephone infringe on your privacy, but driving your car will do the same. Within 10 years your new car will have a microcomputer that reports to a traffic-control system that can pinpoint your location at any given moment. That means someone with access to the system can monitor your movements incognito from an office on the other side of the city. Paranoia? No, the prototype systems are working now! All they need is funding.

GPS

The Global Positioning Satellite (GPS) system will prove a boon to navigation, but a bane to privacy. Currently a constellation of six or so prototype satellites, the atomic clocks on board beam timing information to earth on microwaves, and anyone with a receiver and the appropriate computer can triangulate true position on earth (or in the air) to within 30 yards. The military version can pinpoint to within 50 feet of true position. Speed and heading information generated from a GPS computers is also highly accurate .

The explosion of the Challenger delayed the deployment of the 21 finished GPS satellites (18 working, 3 spares), but within a few years, the constellation will be complete. GPS is now used for ship navigation and surveying, but soon an automotive receiver will be ready for the market.

Autoguide

Prototype traffic control/car navigation systems in London and West Berlin have proven successful. The U.K. plans to award contracts in October to expand its system (called Autoguide) to cover 1,000 square miles. Autoguide is a network protocol—it's a software product combined with some

simple hardware to make automobiles into nodes on a network.

Each car has a microcomputer that sends travel logs and receives traffic information via infrared transceivers mounted on the car, and on traffic lights. A network control center collects data from the cars, and individual vehicles can be tracked easily.

By tying the Autoguide computer to the GPS computer, a person in the network control center can develop a highly accurate record of your car's movement. Perhaps the police won't even have to catch you breaking the speed limit. The navigation computer could do that for them, and another computer could dun your bank account automatically.

Truck Fleet Control

Similar traffic systems are being tested in the U.S. using advanced communication technology to track fleets of commercial trucks. Coupled with GPS navigation, a fleet manager can pinpoint every one of his trucks and check printouts of their progress. This technology allows two-way communication between truck and headquarters.

I think the teamsters union will lead the fight for privacy in navigation once it understands the implications of combining communication and navigation technologies. And it won't be long before an overbearing manager harangues his truckers for the length of stops, route choice or traffic jams. Either the union will rail against this technology in contract negotiations, or it will take the matter to court.

The American legal system will have to catch up to these new applications of technology, and set down clear guidelines for the handling of electronic communications in order to protect our privacy. As the pressure for national health insurance (and its attendant national health records database) grows, there must be clear-cut regulations over the use of our medical histories. We have to keep personal information private so that we may each decide who may receive it.

I believe that by losing control over information, we are eroding our personal liberties. Anyone who has a file on my personal life is surely not keeping it for my benefit! With computers, that file is becoming all too easy to create (or steal). And even though we live in a time when pictures of missing children greet us for breakfast, I won't take my children to be fingerprinted by the police. I'll do it myself and keep that information in a private file.

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FAX & the Mac

by Dave Small

These little animals have been lambasted in several Macintosh publications as being a poor substitute for a Fax machine.

I have three of them and think they're great but **don't** think they are a substitute for a fax machine. What they're good for is sending messages, much better for sending than for receiving. They make a regular group 3 fax machine act just like a remote printer. And the print quality is much better on that fax machine than it would be if you were to print the document on a Postscript printer and then run it through a regular fax machine. They're also great because they're cheap compared to a fax machine.

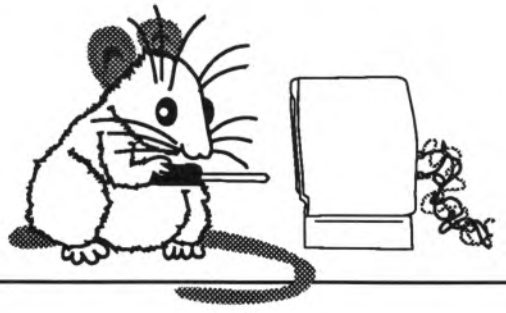
Get one if you send a lot of fax messages and documents that are created on your Mac. If you send messages that must be scanned from a piece of paper, forget it. A scanner and a Fax modem are **not** a substitute for a Fax machine.

Get one if the print quality of your outgoing messages is important. You'll get dramatic quality improvement on any receiving fax machine.

Don't get one for receiving messages. It can be done, but you have to have the fax modem software running and printing takes a long time. Viewing incoming messages on screen isn't great either.

If you think of a fax modem as a cheap way to turn every group 3 fax machine on the planet earth into a good quality remote printer, then you are thinking about it properly. If you are thinking of a fax modem as a substitute for a Fax machine, then you are on shaky footing.

Hardware



Spectre In The Mac World

by Kim L. Serkes

I'm preparing this article in the Word Processing module of *Microsoft Works, V2.0A*. My machine has two megabytes of RAM, runs 20% faster than a stock Mac Plus, and has two 800K floppy drives that can read/write to DOS disks. I could be using a color monitor, but I prefer the 640x480 hi-resolution monochrome. I'm using System 6.0.2; have a zillion fonts, CDEVs, INITs, and a 30MB hard disk full of Mac software. The printer I'm going to use for a draft is an Epson LQ850, which I drive with the *Printworks* dot-matrix drivers. I'll probably send the file to BMUG via my Supra 2400 modem, using *Red Ryder* or *TermPlus*.

So what? You're imagining that I'm sort of a hard-core hardware hacker who's hopped up an old 512 with scrounged parts, or perhaps I've got some sort of modified Mac II. As the orange juiceoid ads say, "wrong again." My computer is an Atari Mega 2, running the *Spectre 128* emulator from Gadgets by Small.

The *Spectre 128* is a hardware/software emulator package. The hardware is a small cartridge which plugs into an available port. The software resides on the "Atari" side of the HD. Inside the cart are two Apple Macintosh 128K ROMs (Read Only Memory chips), one other chip, and a handful of other components. The software has a number of goodies which I can't say I even begin to understand...and I don't need to.

Background

Gadgets by Small, Inc. was started by Dave Small, who was the technical genius behind an earlier Macintosh emulator for the Atari ST computers. The emulator is possible because both the Apple Macintosh and Atari ST computers use the same Motorola 68000 CPU (Central Processing Unit), and because much of what makes a Mac a Mac resides in the ROMs. Well-behaved Mac applications use the Mac "toolbox" to send instructions to the hardware, so it's possible to re-route these instructions inside the Atari with software commands.

Compatibility

The *Spectre 128* is highly compatible with Macintosh software. The Gadgets by Small newsletter number two has a listing of over 500 applications and utilities which work. They range from big-ticket items, like *PageMaker v.3.0, Microsoft Word v.4.0, Excel v.1.06, MacWrite v.5.0, Microphone II,* and *Super Paint v.2.0*, to freeware CDEVs and INITs. There are a few programs which don't work due to copy protection or other "hardware specific" reasons. These tend to be games, but there are a few important applications that won't work—contact Gadgets to find out the current status.

Floppy Disk Compatibility

The Atari ST/Mega computers use a 3.5 inch floppy disk format which is file compatible to that used by IBM. It is, however, completely incompatible with the GCR (Group Coded Recording) used by Macintosh.

The *Spectre 128* modifies the Atari format slightly to allow floppy access to be quick and reliable. Spectre format floppy access speed is comparable to that of a Macintosh. Reading and writing true Macintosh format disks requires an outboard device (which modifies the control signals and data going to the existing drives). The most popular of these is the *Translator One* by Data Pacific, which, unfortunately, runs very slowly.

Gadgets is about to release a new hardware version, the *Spectre GCR*, which will allow Macintosh floppies to be accessed with no additional hardware, and at speeds higher than a Macintosh.

Hard Disks And SCSI

Atari hard disks can be formatted as Macintosh disks (with Atari, IBM, and

Macintosh formats existing on the same physical disk). Hard disk access times are comparable to the Mac II. The *Spectre 128* can use many Macintosh SCSI devices, provided that a proper host interface is connected.

Drawbacks

The *Spectre 128* is still in relatively early development. Some things do not work as well as they do on a real Macintosh. The most immediately noticeable is sound. The Macintosh and Atari use very different hardware to generate sound. Currently sound is available in a fairly crude "beta" version which sometimes causes the emulation to slow drastically. If you must have key-clicks and beeps, however, they do work.

More serious for productivity users is the lack of AppleTalk support. You can't just hook the Atari to a LaserWriter or a TOPS network. It is, however, possible to print a Postscript file to disk and print it at a service bureau.

What Does Apple Think?

Apple is known to be a tad "protective" of their OS and "look and feel." Many people wonder why they haven't stomped this emulator into the primordial ooze. Certainly it's not for fear of GBS's huge legal department or deep pockets.

Gadgets has been very careful not to push Apple too far: they do not sell the ROMs or any Apple System Software. They also have designed their hardware to make it difficult to use EPROM copies of the Apple ROMS.

Future Developments

Sound is being refined, support for the Atari Laser Printer (SLM 804) is being developed, Postscript output improvements in the are in the works. Also, it will soon be possible to hook up large screen monitors and CD ROM drives to the Atari.

Costs

The *Spectre 128* lists for $179. Apple Macintosh 128 ROM sets can be found for $125-175. When released, the *Spectre GCR* will list for $299. Prices for Atari ST and Mega computers vary widely; the 2 MB machine used by the author currently sells for $1299 (including monochrome monitor, internal disk drive, keyboard and mouse).

Conclusion

The Atari ST/Mega computers can be a very cost-effective platform for running software developed for the Apple Macintosh. The present weakness in the software developed for these machines has given rise to several emulations of both Mac and IBM operating systems. Thus, the Atari can be useful both as an environment for running applications from these OSs and as a bridge between them.

Spectre 128

Gadgets by Small, Inc.

40 W. Littleton Blvd. #210-211

Littleton, Colorado, 80120

303-791-6098

Data Pacific

609 East Speer Blvd.

Denver, CO 80203-4240

(303) 733-8158

OCR On A Shoestring

How Cheap Can You Get?

by Scott Beamer

We would all like to use OCR technology at times. It sure beats long hours rekeying data, and OCR is often more accurate. But few of us can justify the cost of a scanner, a bigger Mac, and the software. Someday, everyone with a computer and printer will have OCR at their fingertips, but that day is still a ways off.

Easily the cheapest OCR solution for the Mac is *ReadIt OCR Personal*. It is the same product as *ReadIt OCR*, except that it works only with hand held scanners. The software is $195, and the scanners are about $550. Street price should get you the software and scanner for not much over $500. Compared to other OCR solutions, the price is incredible, but how well does it work?

The answer is just what you would expect. For most projects, it is inadequate, but some will find it just what they need. A few will buy it just to play with, and they will have a gas.

OCR technology is useful only when it is the most cost effective way to transfer data from paper to your computer. Paying someone to key the material in shouldn't have to cost too much more than a dollar a typewritten page. Does that mean if you need a thousand pages done, *ReadIt Personal* is a good deal? No it doesn't. The problem is the time involved.

The software is pretty good. The hardware is impressive, but many times slower than table model scanners because of the careful control you must exert, as well as all the fiddling necessary. *ScanMan* offers up to 400dpi resolution, better than Mac OCR requires. It has adequate contrast settings, and the imaging software can be used as a DA or as a standalone under MultiFinder.

I find I have to go very carefully, often using a book spine as a guide, to move the scan head straight across the page. Sometimes, a few tries are necessary to get it right. Also, the scan head is only four inches wide. Three passes may be necessary to do a single page. Vertical passes are possible, even preferable, with newspapers and magazines, but then it is necessary to carefull set column width and length.

Each scan must be reviewed carefully to make sure characters weren't cropped and that there is not too much distortion. The software works adequately with a surprising amount of distortion. There is no reason to try to paste the separate passes for a single page back together. Just select out any overlap and process the images separately. The text can be pasted back together in your word processor. The images should be saved as TIFF, which eats up disk space pretty fast. It is best to scan and save as many images as disk space allows, process them as a batch with ReadIt, then trash the images and scan a new set.

By working very carefully, one can get as good an accuracy rate with *ReadIt* and *ScanMan* as with *ReadIt* and a conventional scanner, but as the process is tedious, the tendency is to rush. This definitely reduces accuracy. The question is, can you go fast enough to beat typing? I feel usually, yes, but it may not be worth the cost of the extra hardware and software for most projects.

Let me suggest another solution: buy the standard *ReadIt*, then take your hard disk to the laser parlor and use their scanner. It should only cost $10 to $15 /hr. You can probably scan about 100 pages an hour. Remember, if you only have a one meg Mac, you want to scan just one half page at a time. That's what *ReadIt* recommends. Later, on your own machine at home, you can process the material with *ReadIt*.

Using this technique, the cost to you will be about the same for about 1,000 pages. The hassle will be much less, you'll be done much sooner, and the final results will almost certainly be cleaner this way. Of course, you

won't own *ScanMan* to play around with...

You can see that the problem here is that the products are working towards conflicting values. The hardware (and software) is so cheap because it removes many of those features that automate the process, yet the only reason to use OCR technology is to partially automate the process of transferring data from the printed page to the computer.

The surprising thing is that these companies have managed to find an area of functionality in the middle. Not everyone will find this suits their needs, but some will.

Mouse Balls Now Available as FRU!

```
Date:  Mon May 15 10:35:17  1989

ESD PRODUCT SERVICE SUPPORT
SUBJECT: NEW RETAIN TIP

Abstract: MOUSE BALLS NOW AVAILABLE AS FRU (Field
Replacable Unit)
Text:
MOUSE BALLS ARE NOW AVAILABLE AS A FRU.
IF A MOUSE FAILS TO OPERATE, OR SHOULD PERFORM
ERRATICALLY, IT MAY BE IN NEED OF BALL
REPLACEMENT. BECAUSE OF THE DELICATE NATURE OF
THIS PROCEDURE, REPLACEMENT OF MOUSE BALLS SHOULD
BE ATTEMPTED BY TRAINED PERSONNEL ONLY.
BEFORE ORDERING, DETERMINE TYPE OF MOUSE BALLS
REQUIRED   BY EXAMINING THE UNDERSIDE OF EACH
MOUSE. DOMESTIC BALLS WILL BE LARGER AND HARDER
THAN FOREIGN BALLS.BALL REMOVAL PROCEDURES DIFFER,
DEPENDING UPON MANUFACTURER OF THE MOUSE. FOREIGN
BALLS CAN BE REPLACED USING THE POP-OFF METHOD,
AND DOMESTIC BALLS REPLACED USING THE TWIST-OFF
METHOD. MOUSE BALLS ARE NOT USUALLY STATIC
SENSITIVE. HOWEVER, EXCESSIVE HANDLING CAN RESULT
IN SUDDEN DISCHARGE.
UPON COMPLETION OF BALL REPLACEMENT, THE MOUSE MAY
BE   USED IMMEDIATELY.
IT IS RECOMMENDED THAT EACH SERVICER HAVE A PAIR
OF BALLS   FOR MAINTAINING OPTIMUM CUSTOMER
SATISFACTION, AND THAT ANY CUSTOMER MISSING HIS
BALLS SHOULD SUSPECT LOCAL PERSONNEL OF REMOVING
THESE NECESSARY FUNCTIONAL ITEMS.
      P/N33F8462 - DOMESTIC MOUSE BALLS
      P/N33F8461 - FOREIGN MOUSE BALLS
```

This is the craziest retain announcement that I have ever seen. What is so crazy is that it is for real!!! Read it with a sense of humor! — Tom Feledy

The Spectre of Macintosh Emulation

Eating the Forbidden Fruit

By Wm. Price

Territorial Imperatives

Few subjects outside religion, social issues, and politics raise strong, even emotional feelings. But among them is computing where brand loyalties are such that whatever one buys is "wrong" from the perspective of those who own different equipment. Remarks such as "Why did you ever buy that arcane, medieval system?" are common expressions of disdain. Aside from these perspectives, there is the question of Macintosh emulation. If emulation is being performed, how successful is it, how well does Macintosh software operate in a pseudo environment, and are the costs for emulation competitive? Answers to these questions and more are explored in this review of nibbling the Apple.

Roots of Hearsay

Over the past few years several efforts have been made to develop Macintosh clones in Taiwan, Korea, Brazil, and Germany followed by rumors of legal action from Cupertino. Yet this "cloned" capability has been around since 1986 in the form of an 8 MHz Motorola 68000 based computer from Atari and the *Magic Sac* and successor *Spectre 128* cartridge emulators from David Small. This conjunction was unplanned. There was no collusion, but rather a collision of interests, and only recently have the individuals involved been able to work in a mutual business relationship—albeit a minimal one.

The *Spectre* emulator operates the Atari ST as a Macintosh Plus, and comparative benchmarks show that Mac software is executed at speed increases of 20 percent over the Plus. This can be attributed to use of custom chips in the ST that handle some of the I/O functions to relieve the 68000 processor for other concurrent operations. Transfer of data from hard disks through the ST's Direct Memory Access (DMA) port is slightly faster than on a Macintosh II. And the 12-inch, 640x480 monochrome monitor provides a viewing area some 30 percent larger than that of the Plus. With STs available in half to 4MB RAM models at relatively reasonable prices, the performance of this emulation is worthy of serious attention, even from the skeptics.

Both IBM and Macintosh users have commented that the ST is the most underrated computer on the market, and Atari lacks aggressive marketing and support to change those perceptions. It's as if the ST's designer developed an instrument beyond Atari's understanding and ability to exploit. This immediately recalls the pioneering developments by a remarkably talented staff at Xerox's Palo Alto Research Center. The futuristic results were more fully exploited by companies other than Xerox.

The ST was developed not as a Macintosh clone but rather as a look-alike and feel-like system that operates with a mouse under the *Graphic Environment Manager (GEM)*—a windows shell developed by Digital Research Inc. Introduced in 1985, Atari must be given credit for recognizing the efficacy of this approach to computing years before IBM was driven to adopt it. The ST's disk format is almost identical to that used by IBM, and the ST's operating system can directly read both 3.5 and 5.25-inch IBM disks. Its low cost—one of Atari's major production objectives—has made the ST an ideal host for third party developers. Emulators have been a logical choice, and the first—*Magic Sac*—was introduced in the Fall of 1986 to support Macintosh operation.

An IBM PC emulator developed by Bill Teal—a former senior systems engineer in IBM's Federal Systems Division—followed within months. Dubbed *pc ditto*, it is remarkable that his PC XT emulation is totally software based, especially when it was con-

sidered unlikely that a Motorola 68000 could be used to emulate an Intel 8088 processor. A new version will rely on a cartridge and custom gate arrays to increase emulation speed. A *CP/M Z80* emulator is also available. But the real eyebrow raiser is near perfect emulation of the Macintosh with David Small's *Magic Sac* and *Spectre 128*.

The Macintosh Connection

Dave's Macinations began soon after the ST was introduced, but it was the ready availability of Apple's 64K *Operating System* ROMs that made his idea a reality. When the original Macintosh was upgraded in 1985 by replacing the 64K ROMs, a plentiful supply of these chips appeared on the market. The *Magic Sac* cartridge and emulation software were sold without the essential Apple ROMs. Owners or prospective owners had to purchase these chips separately and make a simple installation in the cartridge. Since Macintosh software will not display properly on the ST's color monitor, aspiring users had to purchase an additional high resolution monochrome monitor.

Macintosh emulation was an instant success with existing ST users. Although very few if any STs have been purchased solely on the basis of this capability, *Magic Sac* and *pc ditto* emulation make the ST an attractive computing system. This is especially true where IBM PCs dominate the office place, and compatibility, rather than ease of use and performance, is often a driving force when buying home computers.

Although emulation works well, initially Macintosh disks—formatted and written at five different rotational speeds—could not be used with ST 3.5-inch drives that run at a constant 300 RPM. Software had to be transferred to *Magic Sac* disks that are formatted with the same track and sector layout but at constant speed. To make this transfer, software is ported from a Macintosh through a null modem cable connected to the ST. *TermWorks*, with its 9600 baud rate, can be used on both computers with *Ramdisks* to speed transfer. Although Dave Small provided utilities for both the Macintosh and ST to port contents of entire disks, disk-to-disk transfer was slow. But his software did answer the "chicken and egg" question by allowing *System* and *Finder*, *TermWorks* and a *Ramdisk* utility to be ported first and establish a bridgehead on the ST for more efficient transfer operations.

Mac-In-A-Box

Not many Macintosh friends, despite the portability of their systems, were willing to spend the better part of Sundays performing software transfers to an ST. A solution was in the works, but production problems and FCC testing delayed delivery by some 6 months. Named the *Translator*, this small Z80 computer is daisy chained through the ST's external floppy drive port to perform reading, formatting, and writing of Macintosh disks on constant speed ST drives. Contents of Macintosh disks, either single files or entire disks, are read in one drive and written to a *Magic Sac* disk in the other. Although applications on Macintosh disks can be executed using the *Translator*, the slowness in performing disk operations clearly compares with the high viscosity of molasses. Transfer between 800K formats takes just over 12 minutes, but despite this slow process, files can be copied to *Magic Sac* disks where "real time" reading and writing is fully achieved. The *Translator's* computer is operated through **MIDI In/Out** lines connected to the ST. It maintains proper linear microbit spacing when writing to either Macintosh or *Magic* disks, and data written at variable speeds are treated as different frequencies to achieve compatibility between the two methods of recording data.

More recently, Richard Adam's new *Happy Discovery Cartridge* has furnished a faster means of transfer. Designed primarily for copying protected software, special utilities support transfer between Macintosh and *Magic Sac/Spectre* disks. An 800K transfer is completed in 6 minutes. But the *Discovery Cartridge*, unlike the *Translator*, cannot read and display disk contents. It is a blind copying device, much like *Copy II Mac*, that exercises control over disk drives that cannot be achieved solely with software.

Solutions often uncover other impediments. Some drive mechanisms, like the earlier NECs, have internal frequency filters

on the **Write Data** line. Although intended for eliminating the possibility of stray frequencies, this protection feature inhibits writing to Macintosh disks at the low frequencies required. In some cases, these filters can be removed to provide fully successful operation with the *Translator*.

Keeping Pace with Apple

Just as Macintosh users discovered, the *Magic Sac* with 64K ROMs has its limitations. Although Dave Small provided a unique capability for reading double-sided MFM disks, the HFS format can only be used with *HD-20*. But the greater problem is with newer versions of software developed around Apple's 128K ROMs. In the Spring of 1988, Dave completed the last enhancements to *Magic Sac* and began exploring emulation with 128K ROMs. After long nights, some of which produced over a thousand lines of code, the *Spectre 128* cartridge was delivered in a record-breaking 3 months. Immersed in the Mac world, Dave understands every piece of code in the Macintosh *Operating System* better than some applications developers. *Spectre* was introduced at an Atari show in California, and the limited production run of some 200 cartridges was sold out on the first day. Like its predecessor, 128K ROMs must be purchased separately and installed by users. Although not as plentiful as the 64Ks, the higher priced 128s are available from several sources.

Spectre 128 is compatible with *System 6.0.2*, *Finder 6.1*, and *Multifinder*. But many users continue to prefer *System 6.0* and *Finder 4.2*. *Spectre* works well with newer applications including *MacWrite 5.01, MS Write 1.0, WriteNow 2.0, FullWrite Professional 1.0, Word Finder 2.0, Spellswell 2.0f, MacProof 3.0, MS Works 2.0, Reflex Plus 1.0, 4th Dimension 1.01, FoxBase+ 1.1, MORE II 2.0, PageMaker 3.0a, Ready,Set,Go! 4.5, Adobe Illustrator '88 1.6, FreeHand 1.0, Image Studio 1.0, MacDraw II 1.0, MacPaint 3.01, SuperPaint 1.1, Cricket Draw 1.1, Cricket Graph 1.1, Ready,Set,Show 1.0, and PowerPoint 1.0*. Although *HyperCard 1.2.1* works, it is unstable with some stacks. A compatibility list covering some 400 commercial software titles and versions is available from GEnie Page 691, File #81. About 75 items are identified as not compatible, and over half won't run because of copy protection that prevents transfer to *Spectre* disks.

A host of CDEVs, INITs, and DAs such as *Suitcase II 1.2.2, On Cue 1.3, Menu Fonts II 2.0, Hierarchy DA, Memoir DA, Super Clock 3.0*, and *Sun Clock 1.4 DA* also function properly. Surprisingly *ResEdit, FEdit Plus, MacZap* and sector editors work with *Spectre* formatted disks. As for sound, although the Macintosh and ST methods are substantially different, a recent version of *Spectre* does provide support. This emulation noticeably slows operation, so sound can be toggled ON or OFF at anytime. *Sound Master* does work and the familiar HAL is available on start-up.

Incompatibilities

Software that is hardware specific or doesn't comply fully with Apple's APD standards may not operate with *Spectre*. For example, the zero RAM address in a Macintosh is the beginning location for the ST's ROM-based system. Dave performs an incredible number of traps for "illegal" calls and reroutes them to maintain a seamless operation, but there are some that can't be handled. Among the applications that won't work with *Spectre* are *Fontastic 2.6* (*Fontastic Plus 2.02* works), *Fontographer 1.5* (*2.3* works), *Copy II Mac, MacTerminal*, disk copy in *Mac Tools* and *Mac Zap*, *Mac Write 4.5* (*4.6* and *5.0* work), *MS Word*, and *TOPS*. With *Spectre* and 128K ROMs, *MS Word 3.01* and *3.02* give an "Out of Memory" message, but with 64K ROMs they work well. The latest version of *Word* seems to work without any problems. Although Quark *XPress* functions, it will not print to a non-*PostScript* device such as an Epson compatible or HP Desk Jet printer. The same limitation also applies to operation on a Macintosh.

The ability to read and write Macintosh formatted disks in real time is now being accomplished with the *Spectre GCR*. In fact, *GCR* can read Macintosh disks slightly faster than *Spectre* disks. *GCR* (Group Coded Recording) is a special format developed by Steve Wozniak for the Apple II. His IWM (Integrated Woz Machine) controller chip to handle this format was so simple and suc-

cessful that it was carried over to the Macintosh. The need to transfer software and operate from *Spectre* disks is eliminated with *Spectre GCR,* which brings emulation closer to the real thing by running Macintosh software right out of the box.

A wide variety of printers can be driven through the ST's parallel or serial ports using *SoftStyle* drivers, *Grappler LS*, and *Printer Interface III 2.0.* Output from a 300 dpi HP Desk Jet, although slow, is remarkably close to that of a laser printer. But a major drawback is the inability to print directly to a PostScript laser. The *System* requires *Apple Talk*, which is not available on the ST. A cumbersome alternative is to save files as Encapsulated PostScript (EPS) and upload or dump them through the serial port with a utility. It would appear that if an entire computer system and its unique floppy drives can be emulated, it should be possible to do the same for *Apple Talk.* Unfortunately this is not one of Dave's current priorities, but he has struck on a possible solution.

Differences

Shutdown and **Restart** are not supported by *Spectre*. **Command E, Shift F1** and **F2,** or dragging disk icons to **Trash** must be used. And unlike the Macintosh, disks are not automatically ejected. They must be removed by using the drive eject button. Of course disks cannot be formatted from the desktop. *Spectre* utilities, operating under native ST control, are used to format both *Spectre* and Macintosh disks.

The ST's hard drive support provides a wide range of options, and its 10.6 megabit-per-second transfer rate through the DMA port has few contenders in either the Macintosh or IBM world. Hard disks can be partitioned for ST, Macintosh, and DOS usage on the same drive. My ST system has two 62MB Miniscribe RLL drives with four 12MB partitions for Macintosh software, 5 for ST applications, and 1 for *MS DOS* use.

RLL encoding yields an increase of 50 percent in sectors per track, and with 1:1 interleave format, contents of an entire track are transferred in one revolution of the disk. As another bonus, RLL and 1:1 give a 50 percent increase in the rate of data transfer. The Macintosh Plus is limited to a 3:1 interleave where three revolutions are required to transfer contents of a single track. A stock IBM PC XT with a 4.77 MHz clock must use a slower 6:1 interleave format requiring 6 revolutions to transfer a track. Even though there are minor shortcomings to *Spectre* emulation, they are far outweighed by other benefits.

The ST Behaving As Itself

Although earlier Atari 8-bit computers were popular for game software, the ST is a radically different architecture that provides performance and capabilities comparable to and in some cases better than other personal computers. And it does so at one of the lowest prices in the industry. The ST's *GEM* desktop display is similar to the Macintosh. Multiple windows can be opened, scrolled and resized, and directories are displayed either as icons or text. Mouse operation is augmented by **Function** and **Control (Command)** keys. But unlike the Macintosh, most printer drivers are unique to and installed by each application. Global access provided by the Mac *System* is not available on the ST except for special drivers and related fonts.

The ST is produced in four capacities: the half megabyte 520ST, 1MB 1040ST, 2MB Mega ST2, and 4MB ST4. Lower capacity models can be upgraded to 4MB. All STs come with an internal, double-sided, 3.5-inch floppy drive; a mouse; and 94-key extended keyboard. ST Color and monochrome monitors are optional, and the ST can drive most multisynch monitors such as NEC, Sony, Princeton Graphics, and Mitsubishi with an adapter cable. Standard on all models are serial and parallel ports for modems and printers, DMA hard disk port, MIDI In and Out, RGB analog output in both color and high resolution monochrome, high speed cartridge slot, and separate connections for mouse and joy stick. Supra and ICD market DMA interface boards for hard disk mechanisms, and fortunately both provide a wide range of utilities that support most popular drives and controllers. ICD utilities now support Sony's rewriteable magneto-optical disk drive which can be connected through ICD's DMA interface.

It would be a mistake to simply view the ST and *Spectre* with "peaceful coexistence", or worse still, with disdain. The ST with *Spectre* and *pc ditto* provide a viable gateway and turnstile for my Macintosh II. It has more advantages than Esperanto, and languages involved need not be learned. *Word Perfect* files produced on an IBM PC can be loaded directly into the ST version of *Word Perfect*. These files can then be saved as ASCII text, and with *Transverter*—an ST utility developed by Doug Wheeler—files can be transferred and converted to Macintosh disks for use with *MacWrite*, *Ready,Set,Go!*, and other applications that import ASCII or Mac binary text files. The reverse transfer and conversion from Macintosh through the ST to an IBM PC is equally as easy.

Through The Looking Glass

Has this straddling of several computers produced a form of schizophrenia? Has the forbidden fruit been eaten? To the contrary, a true perspective of co-processing has emerged. And as noted earlier, there are more similarities than differences with the Macintosh. The desktop displays and operation of the ST and Macintosh are so similar that one is equally comfortable with either. ST users are frequent visitors to GEnie's Page 606. Macintosh users can also benefit by visiting the Gadgets by Small (*Spectre*) Roundtable on Page 690. You will quickly discover that ST users are not content with off-the-shelf products. They are an aggressive group best characterized as RYO (Roll-Your-Own).

You will also discover that domestic support from Atari Corporation is minimal. A high exchange rate for the American dollar, lower import duties in the Common Market, and the European's more pragmatic approach to computing with less buyer concern for brand names have turned Atari's attention to that market. Almost 70 percent of the ST production is shipped to Western Europe.

The Future

Earlier this year, Atari demonstrated a laptop ST at the Hanover Computer Fair (CeBIT). Currently called STacy, it may join the thin ranks of other Mac laptops by using the *Spectre*. With a super-twist, LCD display of 640x400 pixels, it will be offered in 1MB or 2MB RAM versions with either 2 floppy drives or 1 floppy and a 30MB hard disk. Although a trackball is built into the keyboard, a mouse can also be used. Reportedly this unit will be assembled in Japan rather than Taiwan.

Also shown was a prototype 16MHz 68030 TT with full 32-bit I/O and internal processing. UNIX is supported and it will share the ST's operating system to provide compatibility. Although scheduled for production this year in Germany, keep your expectations moderate because Atari is noted for indecision and vaporware. Atari will not move until the price is right. In promising a CD ROM drive, Atari indicated it would not be available until units could be produced for a retail price in the $500 range. Although operational prototypes have been demonstrated, production units are not yet available.

On the positive side, Atari does not gouge your pocket. This has created a market where users expect reasonable prices, and third party developers of software and peripherals have been forced to compete in this lower pricing structure. Another plus is David Small's robust support for his product. With earlier releases of software, it was routine for him to upload improved versions to Compuserve and GEnie sometimes as frequently as 3 consecutive nights. Persistence, enthusiasm, and superb expertise are understatements. The ST and *Spectre* are well worth the investment as a back-up or companion to your Macintosh. You will also appreciate the color monitor and variety of respectable ST software that is available. ST users are delighted with this triple-header computing capability.

In exploring this emulation, it appears that the major differences between the Macintosh and ST are the 64K or 128K *System* ROMs, the floppy drive controller, and *Apple Talk*. The ST addresses ROM and RAM differently, it uses three custom chips to augment the 68000 processor, and Direct Memory Access instead of SCSI is used to interface hard disk drives. The questions are

whether or not (in the tradition of Adam and Eve) great damage has been done to society, or if there are redeeming values from this emulation. You now have the information to make your judgement.

Bill Price is a Macintosh II and an Atari ST user. He reviews desktop publishing software and writes for Current Notes, *a monthly ST magazine based in Washington, DC.*

Prices	List	Discount
520ST	$600	$500
1040ST	800	699
Mega ST2		1200
Mega ST2 Color	1900	1500
Mega ST2 Mono.1700	1700	1300
Mega ST4		1700
Mega ST4 Color	2600	2000
Mega ST4 Mono.	2400	1800
Color Monitor	400	329
Mono. Monitor	200	150
Spectre 128	180	130
Spectre GCR	300	
Magic Sac	65	50
Translator	300	250
Apple 64K ROMs (2)		50
Apple 128K ROMs (2)		100
Happy Discovery Cartridge (Basic model)	250	188
pc ditto	90	70
pc ditto II Cartridge		300

OCR TODAY

The Software is Ready, Are You?

by Scott Beamer

Last year, OmniPage made OCR a recognized category of Macintosh software. Now, there are several to choose from, below are comments on ten. Though the field is evolving rapidly, we are a long ways from the ideal product: one that would work as easily as a photocopier and would be included in another piece of office hardware, such as a combination printer/scanner.

More of us are being saved long hours at the keyboard, rekeying data, but price will have to drop considerably before this technology will be available to most of us. "OCR on a Shoestring" (see following article) offers a novel solution for "the Rest of Us..." well, at least for a few of us.

In the future, do not look for the price of software to drop dramatically. Look instead for hardware costs to decrease. Scanners are evolving rapidly, and multi-megabyte Macs are becoming more prevalent. Software requiring these upscale Macs will prevail on the Mac, rather than OCR-on-a-card solutions, which are more common on the PC.

Combo Machines

When you think about it for a minute, the technology of a scanner, laser printer, photocopier, and fax machine are all closely related. Why not have one piece of office machinery to handle all of this? Well, that day appears to be much closer than I expected. Two recently announced products are pioneers in this area. While neither will help me do OCR work today, both appear interesting symbols of the direction technology is headed.

Sharp has announced a combination scanner, laser printer, fax machine for PCs only. It has a 400 dpi engine, and a separate PostScript controller card can be purchased. Two of these machines are able to exchange a full page of graphics in one minute. Surprisingly, to transmit anything by fax from the unit, it must on paper. If the document is in the computer's memory, it must be printed out first, then scanned. The unit with all options will list at about $10,000. This includes enough onboard memory for ten electronic mail boxes with separate passwords.

The second machine is more interesting to Macintosh users, particularly those with more modest budgets. It is the Tefax unit from Relysis. It combines a scanner, printer, and fax. It can do some photocopy work. Surprisingly, it is priced at $1,595, includes at 9600 baud modem and BackFax software. Now the bad part, it scans and prints at 200 dpi.

Handwriting on the Wall

Giant corporations and the government have used high end OCR products for years. It is a trickle down of that technology that is showing up on microcomputers today. Another desire shared by government and business is the ability to mechanically read handwriting.

Pilot programs have been underway at the IRS, insurance companies, and apparently, Microsoft. Did you notice that the applications for updates for *Word 4.0* and *Excel 2.2* were designed to be filled out in handwritten block letters, with sample characters provided? This is to allow them to be read by an OCR machine.

The unit at Microsoft, designed specifically to read forms and computer printing, is built into a minicomputer. It can process a page a second. With all the differences in products, platforms, disk sizes printer drivers and updates, Microsoft has over four hundred different forms now valid. Still, the power of the unit is such, they only use it a couple of hours a day. They claim it has about an eighty per cent accuracy rate on handwritten forms. They are pleased with this, as the only alternative is to hand process the forms.

There are a couple of products for the Macintosh claiming to read handwriting (block letters only). Because they are admittedly slow and clumsy, they are not for forms processing but for an alternate to the keyboard. I have only seen one of these products demonstrated, but I feel confident in sayingthat you shouldn't expect too much from them. My advice to everyone is check any such product out very carefully before buying. Remember, a typing tutor program is only about $25, and with a few weeks practice in your spare time, you will be an adequate typist.

TODAY'S PRODUCTS

Accutext by Datacopy

I think they should have called it MacKurzweil.

If you can afford it, this is the one you want. While the software is only $995 (sic), it requires a 68020 CPU and four megabytes of RAM in your Mac. Add in the price of a scanner (get an automatic sheet feeder if you will be dealing mostly with unbound material), and your OCR facility will cost upwards of $8,000.

Accutext has three outstanding features: it is the most accurate product available, it can read poorer quality material more successfully than the competition, and it retains more formatting in the resultant word processing document than the others.

The recognition technology is much the same used in their $40,000 hardware product so well respected in the field. Cramming it into a four megabyte Mac was no easy task, and you'll find some quirks caused by crowding.

Chief among these is the lack of any view of a page just processed. When Accutext is done with a page, it stores it to disk. You need to close Accutext and open it in a word processor to take a look.

OmniPage is noticeably faster with straightforward material, and a bit better at dealing with automatic page definition, but when the going gets tough, *Accutext* is far superior.

Part of *Accutext's* high accuracy rate is due to its AI based technology that makes frequent use of a built in 50,000 word lexicon. User's can add up to 10,000 more words. Lexicons for six European languages are available separately. Localized versions in these languages can also be purchased in the US.

OmniPage 2.0 by Caere

While doing this article, I got a quick look at a prerelease version of *OmniPage 2.0*. While I like the product and definitely recommend it, I was disappointed that it was not richer in features and fixes.

My major complaint is that scanner contrast control still offers only "Lighter, Darker, or Normal," and there is no preview to see if the scan is properly adjusted. Improper scanner settings are the primary cause of *OmniPage* being unable to read a page satisfactorily.

A nice addition is the ability to designate foreign character sets. This allows *OmniPage* to work with foreign language documents and also multilingual ones. It's not a good idea to leave foreign character sets selected all the time, as they reduce speed and accuracy.

TextPert 3.0 by CTA

This is a forward looking product, the best available for some situations, but disappointing in others. Priced the same as *Accutext* and $200 more than *OmniPage*, it doesn't work as well in everyday use.

CTA claims *TextPert* will process most documents automatically, yet allow you to train the software for cases not handled well in the automatic mode. In my evaluation, I failed to find any document *TextPert* processed adequately in the automatic mode. It wasn't terible, just slow and not as good as the fully automatic products.

The outstanding feature of the program is its foreign language abilities. Not only does it allow you to specify any of 37 European language character sets, it can also be set for four alphabets, Roman, Cyrillic, Greek, and Hebrew (I did not test the non-Roman alphabets).

Accutext 1.0
Datacopy
1215 Terra Bella Ave.
Mt. View, CA 94043
415/965-7900
OmniPage 2.0
Caere Corporation
100 Cooper Court
Los Gatos, CA 95030
408/395-7000
TextPert 3.0
CTA, inc.
747 Third Avenue, 3rd floor
New York, NY 10017
1-800/252-1442
ReadIt OCR 2.0
Olduvai Corporation
7520 Red Road, Suite A
South Miami, FL 33143
305/665-0671
TextScan 2.2
New Image Technology
9701 Philadelphia Court
Lanham, Maryland 20706
301/731-2000
ReadStar II Plus
Inovatic, Inc.
1911 North Fort Myer Drive
Suite 708
Arlington, VA 22209
703/522-3053

ning to show its age. It is still the most dependable low end product, but could use a face lift. Olduvai founder Juan Chotsourian, says it is in the works. Expect to see a new *ReadIt* with both automatic and trainable modes as well as automatic page definition before the end of the year.

Also note *ReadIt OCR Personal* ($195 (sic)), identical to *ReadIt OCR 2.0*, except that it works only with hand held scanners. See the following article "OCR on a Shoestring" for more details.

TextScan by New Image Technology

Considering this product is being written by one programmer in his spare time, it's amazing how well it works. An automatic/trainable program, it faces heavy competition from both the automatics and trainables. Even with its low price of $395 and its innovative training and error correction techniques, I believe *ReadIt* is a better low end choice and *Accutext* or *OmniPage* better high end choices. Its distributor is a small company that focuses on selling scanners. It will apparently not have national distribution through the customary channels.

AutoRead by TutorLand

Beware of this product. While I don't doubt the sincerity of the French programmers, we do doubt their competence. The product is marketed in the U.S. by a very small company with no OCR background. It is copy protected and has perhaps the worst Macintosh interface I have ever seen. Priced at $995, we can think of no reason to buy the product.

ReadStar Express by Inovatic

Also an import from a small, eccentric French company, *ReadStar II* Plus has been on the U.S. market for a couple of years without finding its niche. Its price was lowered from $4,000 to $995 (with no change in features) when *OmniPage* began shipping. It requires only a Mac Plus to work, though it will be slower and it works best half a page at a time on one.

ReadStar Express currently is a hardware product on the PC market. It is expected out later this year as a software only product for the Mac. Inovatic claims it will read most material automatically, but will allow you to improve performance by using training when necessary. It will also have automatic page definition.

I assume the new product will still be priced at about $1,000 and will be copy protected. Though the current *ReadStar* is sometimes the fastest OCR on the Mac, *ReadStar Express* will have a tough time proving itself.

Calera

Once the pretender to Kurzweil, Calera (née Palantir) has won the battle but may lose the war. Kurzweil has gone on to other things, and Calera is not doing a good job at catching up. This January, they were showing off their $29,000 recognition engine (high speed scanner included) attached to a Mac Plus. They have since decided to redo the Macintosh interface, so the Mac version, to be called *TopScan*, won't ship before the fourth quarter.

Their hardware is impressive. The scanner does a page in three seconds. There are four circuit boards in the recognition engine, each with their own Motorola 68020 chip. Until I have put the product to the test, I will reserve judgement as to whether one would be better off buying a high speed scanner and the latest OCR software instead of this product.

Calera does have a $3,000 OCR-on-a-card PC product. The same technology should run on a Mac II type machine as software only, but it doesn't appear likely they will release such a product for some time to come. It is obvious that the Macintosh market is not a primary target for Calera.

OCR Express

At one time, Siemens intended to market this product but did not complete the deal with an independent developer, so the product is being marketed directly by the developer, HSD GmbH. It is OCR on a NuBus card. It will read eight European languages, works automatically, can read only 200 built

in fonts, and automatically spell checks the documents as it translates the text. It is expected to be priced near $3,000 and works with the Siemens and Apple scanners.

Dest

Dest is in Chapter 11. I would be surprised if anyone buys their OCR technology to use in a new product.

Tips and Tricks

—Always scan at 300 dpi. In spite of manufacturers claims, I've never successfully completed a project at any other resolution.

—Don't bother trying to do OCR with one megabyte Macs. All the trainable or auto/trainable products claim to work on the Mac Plus, but read the fine print. They qualify that by saying it will work appropriately only on half a page at a time.

Remember, there are alternatives to OCR technology. For the vast majority of projects, the fastest way to get it done is keep typing. Other alternatives include: pay someone else to do it for you, service bureaus with OCR equipment, or laser parlors where you rent the equipment by the hour. Renting a scanner by the month is almost certainly too expensive. By the hour is questionable. It is likely more effective to pay the laser parlor to do it for you. Their operator is trained, and if things go poorly, they will likely not charge you the full price.

Foreign language can be processed just as well with OCR as English, but remember to get a foreign language spelling checker to help clean up the recognition errors.

TopScan

Calera Recognitions Systems, Inc.

2500 Augustine Drive

Santa Clara, CA 95054

408/986-8006

OCR Express

HSD GmbH

Kurfürstendamm 66 D-1000

Berlin 15, West Germany

49-30-88-1081

Scum, Killy Clips, Add-on Screens and Mac Technicians

by Kenneth William Hirsch, © 1989 by Kenneth William Hirsch

If you have a Mac Plus, you may wish to add a full-screen display. To do so requires connecting a set of additional chip circuits into your main logic printed circuit board. This is the heart and brain of your Mac. If you have a Mac SE or other Mac model which provides a slot connector into which your add-on accessory (the full-screen display or other device) connects, there is usually no problem. The plug, which itself is a mini-circuit board, fits into the slot snugly and is easy to readjust should shocks to the Mac and expansion and contraction due to heating up and cooling down (every time the Mac is turned on and off) make the contacting surfaces less secure. (Less secure contacts mean malfunctioning Macs.) However, if you have a Mac Plus, your options for connecting devices do not include a built-in slot.

There are two general ways to connect the extra circuitry into a Mac Plus. This extra circuitry usually resides on a little circuit board of its own. The first, most secure way is to solder the connecting points to the appropriate points on the socket which connects to the Mac's main logic chip. This usually requires re-setting the chip into a special socket, for their are 60 tiny metal contact "legs" which drop down from the logic chip—it looks like a centipede—and press fit the chip into a new, special connector. Slip a little when soldering, pick up some static from your living room rug and fail to discharge it, fail to avoid excess heat buildup to other components and you are in line for replacement of the logic board at a high price. Thus, this solder job invalidates your AppleCare prepaid Mac service contract, should you ever need Mac service, and is undertaken only by folks who are confident in their skills.

The second way is to devise a press-connection between the 60 pins of the logic chip and the new circuitry. That is the method many manufacturers have chosen. Often, this two involves the manufacture of some sort of a special contact device. One of the more diabolical of these is called a "Killy Clip". It may or may not have been invented by Peter Kilcomin, the proprietor of The Killy Corporation (formerly, Network Specialties) and an early BMUGer during his medical internship year at University of California at San Francisco Medical School. But whoever invented it, the thing is used to connect my Mac Plus to my Network Specialties "High-Top" Monitor (a 15" Xerox full page display adapted to work with Macs).

There are al least three versions of the Killy Clip. The third version, the one that seems to work, looks identical to the others except for a small, circa 1/4 inch diameter, hole drilled through the clear plastic at each end. If you are having trouble with your connection (which shows up as bombs, unexpected application quits and the like—malfunctions easily attributed to unknown viruses), you should get the latest Killy Clip and install it in place of the earlier versions. And you should probably find a Mac technician who really knows what he is doing. After about seven visits to various Apple dealers in Rancho Cordova, Fairfield, Sacramento and Santa Rosa, all of whom worked on re-seating the Killy Clip and most of whom charged substantially, I finally found a technician who knows how do deal with Killy Clips in Berkeley, by reading the BMUG Newsletter's recommendations for service. That person is John Sawyer who, with his brother Steve, runs C.J.S., at 3051 Adeline, Berkeley, CA 94703 (Phone: (415) 849-3730.) C.J.S. is not an authorized Apple dealer. If the Killy Clip fix later turns out not to last, they will install a solder connection, if I am willing to forgo the Apple Care. Meanwhile, I've had no problems for four months. Here's why:

Scum and Apple Logic Chips:

Apparently, the Mac's logic chips often have a transparent scum on the otherwise-shiny-metal connector legs. This is sometimes a result of a protective coating which was applied but not removed, other times a thin film of oxidation. The chip must be carefully removed and its legs cleaned and polished, then re-seated before the add-on Killy Clip's legs (also similarly cleaned and polished) are pressed over the logic chip legs. That very careful, precise operation was performed by John Sawyer and now the connection works. Simple. But none of the Apple techs knew this nor did the directions supplied by Network Specialties mention it.

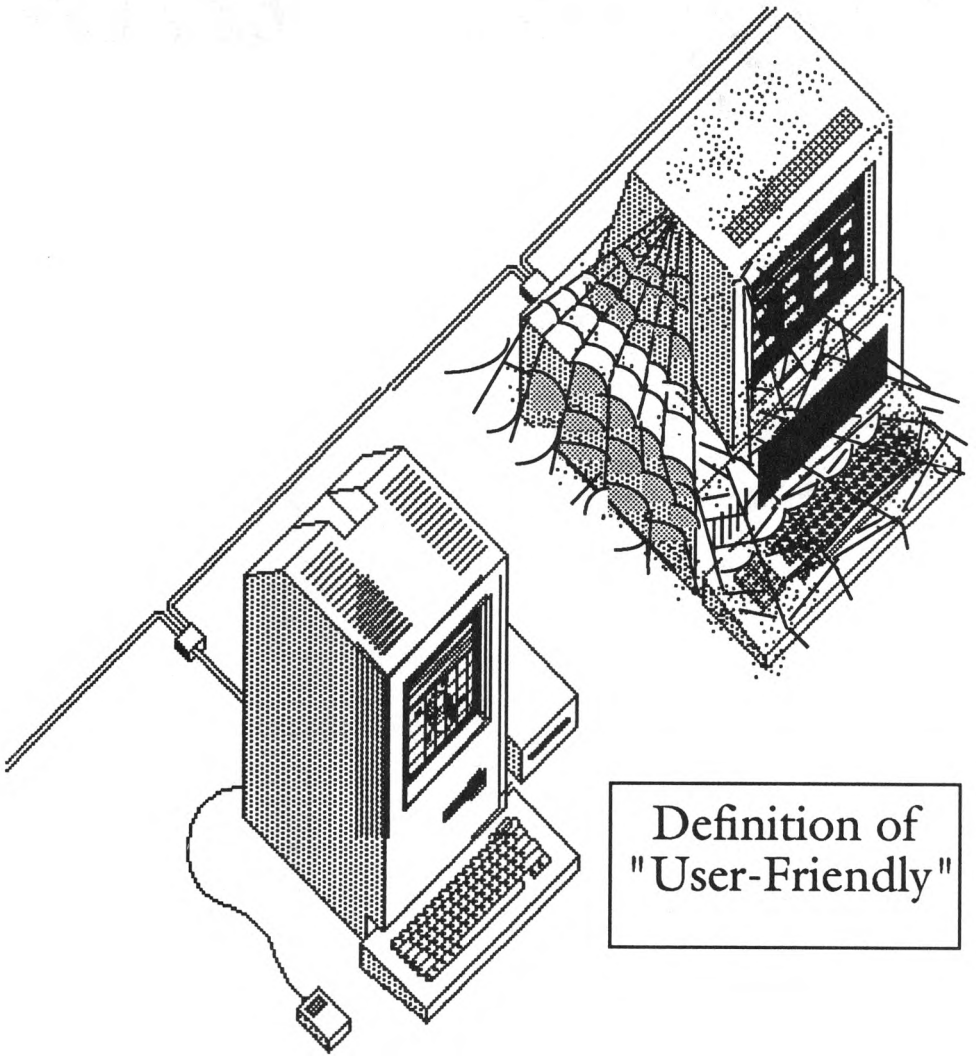
In my article, "A Full Page with Network Specialties' High-Top External Monitor", on pages 72—75 of the Winter-Spring, 1989 issue of the BMUG Newsletter, I indicated that I very much like that full-screen display. I also indicated that I was having some difficulty getting Network Specialties to perform on their one year warrantee of the Xerox monitor. That has been taken care of, now, thanks to my having spoken via phone with Jeannie Kilcomin, Peter Kilcomin's sister. Jeannie obviously has clout in the company and made my fix happen. (Others in the company with whom I spoke, including the Marketing Manager, gave no help. Please note that Jeannie was aware that I had written the BMUG Newsletter article about their product. I should hope that would have no bearing on the help she would give others who need to contact her at Network Specialties.

The Killy Corporation can be contacted in New York City at the following phone numbers:

(212) 995-0560 and (212) 2293 (as of 5 July, 1989).

Although Founder-Chair of Sacramento's University Macintosh Club at California State University, Sacramento where he is Professor of Communication Studies, and a co-founder of Sacramento's Osborne Group, Kenneth William Hirsch finds himself asking the folks at BMUG just as many questions as when he started messing with Macs. His BITNET address is KHIRSCH@CALSTATE

HyperCard



Definition of
"User-Friendly"

Animation in HyperCard

by John F. Williams

HyperCard is a neat program, but it wasn't meant for animation. However, its value as a multimedia medium makes a little painstaking work worth the frustration. Animation in *HyperCard* reminds me of the early years of the motion picture industry. Back then, cinematographers were restricted by technology which only let them run still photographs together at limited speeds. The result was often a movie which contained distorted movement or motion that was too rapid. *HyperCard* brings us back to the Dark Ages of animation.

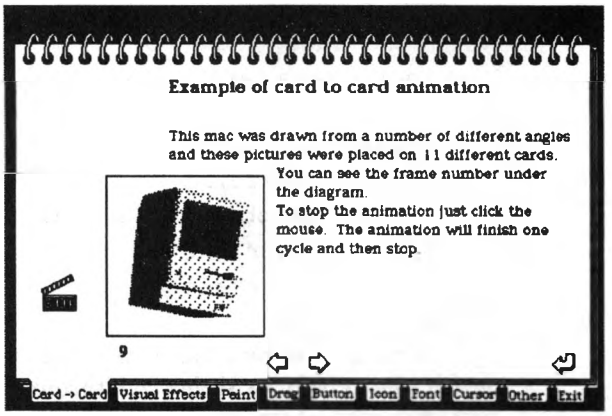
The Macintosh has suffered from a noticeable lack of animation programs since it was introduced. The only Mac animation program that has successfully weathered the years is the *VideoWorks* family of products from MacroMind, Inc. But multimedia (meaning the combination of 2 or more types of sensory perceptions i.e. sound and pictures) is now a buzzword, and Apple seems firmly behind products designed to show off the Mac's visual and sound capabilities.

HyperCard is unique because it allows any user to combine sound and graphics in a program of their own, easily and cheaply. *HyperCard* supports only bitmapped graphics and provides the basic painting tools, but since you are only working with bitmapped graphics anyway, you don't need a sophisticated paint program. And *HyperCard* stacks may be distributed freely without royalties paid to Apple.

There are 4 main methods of animation in *HyperCard*: card-by-card, icon animation, font animation, and manipulating the paint tools with HyperTalk scripts (the programming language of *HyperCard*). Each of these have advantages and disadvantages, and all require some degree of resourcefulness, but all of the techniques detailed in this section of this article are do-able without the use of external programs or routines.

Pick a card... any card...

The fundamental approach to animation in *HyperCard* is the card-by-card method. In this procedure, you first create a sequence of pictures showing the gradual stages of movement of the subject, then paste each picture from the sequence into separate cards of a *HyperCard* stack. When pasting the pictures into separate cards, it's a good idea to **Paste** each picture onto the previous picture first, move it around to line it up, and then **Cut** the picture out again (all this is done without deselecting the picture). Flipping through the cards using the left and right arrow keys will animate the picture. It is also easy to make a button which, when clicked, starts the animation. Simply create a button on the first card of the animation with the script:


Example of card to card animation
This mac was drawn from a number of different angles and these pictures were placed on 11 different cards.
You can see the frame number under the diagram.
To stop the animation just click the mouse. The animation will finish one cycle and then stop.
9
Card → Card
Visual Effects
Paint
Dreg
Button
Icon
Font
Cursor
Other
Exit

```
on mouseUp
    show all cards
end mouseUp
```

This approach is easy to do and requires no use of other programs nor programming prowess. Card-by-card animation is also the only way to easily animate large pictures. However, *HyperCard* often isn't fast enough at flipping cards to produce good animation, and this is usually the most memory-intensive method.

PAINT TOOLS PLANNING

A related approach to animation is to use HyperCard's own built-in paint tools to move things around on a card. Almost anything you can do manually with the paint tools can also been accomplished with HyperTalk scripts. For example, the following script will select an object in the upper left-hand corner and move it across the screen:

```
on mouseUp
  choose select tool
  drag from 1,1 to 50,50 with
  CommandKey
  ¬select the object; shrink
    to edge
  set dragspeed to 30
  ¬slow down the movement to
  ¬make it visible!
  drag from 25,25 to 200,200
  ¬move the object diagonally
  ¬down and right
  choose browse tool
end mouseUp
```

The drag command has a nice option which allows you to shrink a bitmapped picture or move it around leaving a "trail" of replications behind. Just add the phrase with CommandKey at the end of a drag command to shrink the selected bitmap. Similarly, with OptionKey can be used to leave a trail. When using both of these options, remember to start the drag near one of the four corners of the bitmap, just as you would if you were dragging manually.

The most notable thing you *can not* do this way is drag objects along curved paths; the drag command syntax only accepts straight lines as parameters. You can work around this by dragging an object in short straight paths, following as closely as your eyes can strain, the true curved path. I've seen at least one *HyperCard* stack that will keep track of the coordinates of a curved drag for you, so that you don't have to attempt this painstaking procedure yourself. I've even written several scripts to do this quite nicely. Send me mail on the CONNECT network, at username JWIL, if you want them.

This is a good point to mention the most useful set of commands for animation in *HyperCard*: lock and unlock. These two commands allow you to freeze and unfreeze the screen, so that you control what the user sees. Using lock and unlock you could, for instance, lock the screen, move a group of icons on the screen, then unlock the screen so that the user only saw the result of the move. In this way, you can perform "behind the scenes" activity without the user's knowledge. In addition, unlock allows you to unfreeze the screen with a *HyperCard* visual effect. Whenever something isn't as smooth as you'd like it, try using these two commands—they sometimesseem to work magic for animation. In particular, when moving buttons that have changing icons, try locking and unlocking the screen with each move.

I KNOW ICON DO IT!

If your animated pictures are small, in particular smaller than or equal to 32 by 32 pixels, then you should consider animating icons rather than card-by-card pictures. Icons are the only graphic objects in *HyperCard* which may be moved and changed on the same card. Icons appear only in buttons and can be animated in 2 ways: you may put each icon in a separate button or you may sequence through your icons in one button. To show different buttons with different icons, you will use the show and hide HyperTalk commands. For example, to create a blinking eye you would write:

```
hide card button "Eye Open"
--shows the eye open icon
show card button "Eye Closed"
--shows the eye closed icon
```

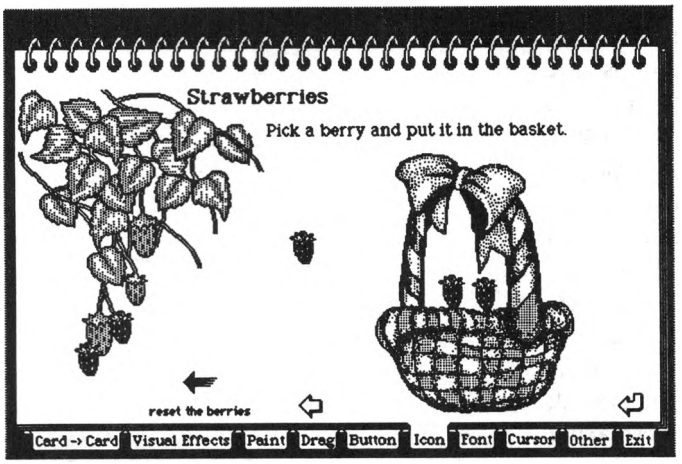
Of course you could do this more than once by putting the hide and show command lines in a repeat loop.

The icon of a button may be changed by setting the icon property of a button. For example:

```
set icon of card button "Eye" to 1920
--the Eye Open icon
set icon of card button "Eye" to 352
--the Eye Closed icon
```

You can even use icons to help animate

large pictures, by using the icon to animate just a small area of the picture, or by using a group of icons. For instance, if you had a picture of a person's face on a card, you could use an icon to make the person's eye blink; you would just draw the blinking eye in an icon and then use show and hide to get the blinking effect.



Finally, Font Animation

If icons are too small for your pictures and you need some way to effectively animate large pictures, you might consider using custom fonts, the fourth and final way of producing animation in *HyperCard* without the use of external programs or routines. Custom fonts are difficult to draw, because font editors usually require you to do a lot of "fat-bits" drawing. You can either draw the fonts in *ResEdit* or use a font editor. There are a couple of font editors on the commercial market, but there is a nice public domain font editor called *FontMaster* that works just fine.

I've only seen font animation in a few stacks, most notably one created for Novell (the network products maker) called "NetWare for Macintosh Demonstration Stack V 1.0." written by the HyperMedia Group.

Once you've exhausted your animation alternatives within *HyperCard*, it may be time to look to 3rd party animation tools. The best way to add professional animation to your stack is to use MacroMind's external routines, which allow you to run *VideoWorks II* animation files. MacroMind's stuff is very good, albeit somewhat complicated to use, and allows you to animate color pictures in *HyperCard* and run off the border of the card. But you have to be willing to pay the price for such quality and features. MacroMind programs have always been expensive, and the distribution policy for their *HyperCard* externals are ruthless in comparison to other 3rd party developers. Rumor has it that a new set of XCMDs (external commands for *HyperCard*) for their new *Director* program will be out soon, if not already by the time you read this. I only recommend using MacroMind's routines if you have the financial resources and *VideoWorks* knowledge to do so.

NetWare Demo Stack

BMUG Hyper Demo __

MacroMind, Inc.
San Francisco, CA

VideoWorks // HyperCard Driver

Farallon Computing includes a *HyperCard* XCMD with their *ScreenRecorder* product. This product allows you to record the screen activity of your Mac, saving the screen-drawing routines into a file to be played back at a later time. This is an easy and effective way to make product demonstrations. You can even narrate the *ScreenRecorder* "tapes" from within *HyperCard* by issuing a "play" command before calling the XCMD. The XCMD has the same functionality as the *ScreenRecorder DA* and comes with a free license to distribute the XCMD in a stack, even commercially.

Farallon Computing
ScreenRecorder
[address]

A newcomer to the animation XCMD world is Electronic Arts, with its *Studio/1* program. This black and white program provides many of the same effects as the MacroMind XCMDs, but at a fraction of the cost (they include a free license to distribute also) and offering a much easier user interface. Their XCMD also supports digitized sound.

Disclaimer: John Williams is an employee of Farallon Computing, Inc. But we believe him anyway.

SuperCard from Silicon Beach Software is also new, and offers a multimedia environment which includes *HyperCard* as a subset. With this program, you can create color animations using large pictures, and then compile your application for faster replay. *SuperCard* already supports most of the existing 3rd party *HyperCard* external routines, and Silicon Beach seems to be working hard to provide compatibility with most

routines. SuperCard promises to be one of the most intriguing products of the year, especially for *HyperCard* users.

Electronic Arts
Studio 1

There are also a whole host of public domain external routines that offer you some flexibility in your *HyperCard* animation. One of the most useful is an external routine that comes with Apple's Tech Notes Stack on "Phil & Dave's Excellent CD." It allows you to scroll around a very large PICT resource. BMUG and most user groups have complete and up-to-date listings of what's available in the *HyperCard* public domain.

Silicon Beach Software
SuperCard

As long as Apple offers *HyperCard* as system software, they will be doing a service for the Mac community by providing us with a cheap and effective means of creating animated software. Within five years, I bet we will all have color Macs on our desks with processors ideal for creating animated software. And the future looks bright indeed, but as for now, I'm extremely tired of making icons.

Phil & Dave's Excellent CD
Apple Computer, Inc.

BMUG on HyperCard
BMUG, Inc.

Note: Screen dumps from Animation Help Stack by Jeremy Ahouse

From the HyperCard Cornucopia...

by Ed Allen and Jim O'Connor

Are you just about losing focus on *Focal Point*? Have you gone down *The Manhole* a few too many times? Do you want to start scripting your own stacks rather than buying commercial stacks?

Well, there's a whole other world out there waiting for you in the BMUG software library! There are stack development tools, tutorials, and some of the best examples of stack design ever to be put down on silicon. The stackware collection in the library is huge. You can spend weeks digging for the gems among the pebbles. Therefore, we have tried to pare down the massive selection to a few of the stacks that we feel give a *HyperCard* developer the best resources in stack-building.

Great Design Examples

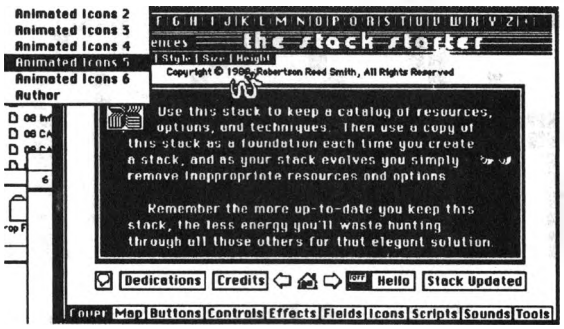
One of the best uses of *HyperCard* is interactive story-telling. Amanda Goodenough's Inigo stories are the ones to look at first. The Inigo stacks provide a good example of how extremely effective simple graphics and minimal scripting can be.

For the Macintosh answer to MTV, check out the Desktop Music Video stacks in the HyperCard Graphics collection. The music ranges from the clarinet solo of Macsody in Blue to the New Wave style of BMUG's own desktop Music Video. These stacks offer excellent examples of integrated visual effects, animation tricks, and sound resources.

Education programs don't have to be boring. HyperCard makes it easy to combine text and graphics in a format that's both informative and fun to use. The education stacks available through BMUG include some very good examples. The AAH Dinosaurs stack is a good example of an automated picture book, allowing the user to select their own paths through information (and it has neat dino pictures, too). David B. William's *Ear Tour* demonstrates that animation can be used for more than decorative purposes.

The *Bird Anatomy* stack is simply amazing. Elegant layout, excellent graphics, integrated popup text, and sound effects combine to make this one of the best stacks done since *HyperCard*'s release.

The Aviary sound effects stack from Uncle Davy is a nice example of a simple utility stack improved by a thoughtful background graphic.


Animated Icons 2
Animated Icons 3
Animated Icons 4
Animated Icons 5
Animated Icons 6
Author
the stack starter
Use this stack to keep a catalog of resources, options, and techniques. Then use a copy of this stack as a foundation each time you create a stack, and as your stack evolves you simply remove inappropriate resources and options.
Remember the more up-to-date you keep this stack, the less energy you'll waste hunting through all those others for that elegant solution.
Dedications
Credits
Hello
Stack Updated
Map
Buttons
Controls
Effects
Fields
Icons
Scripts
Sounds
Tools

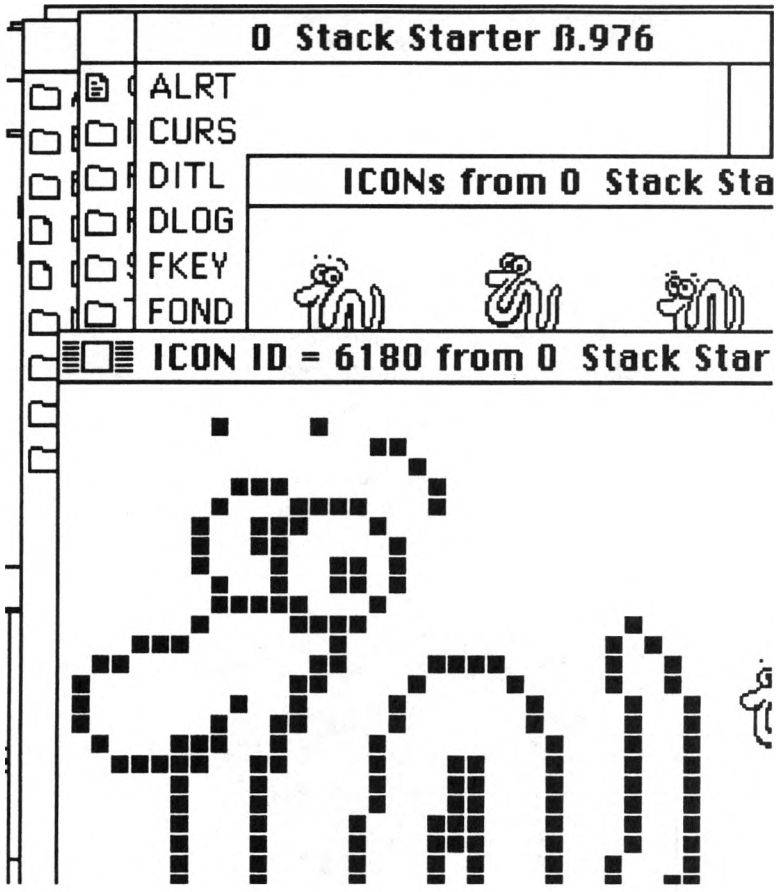
Tutorials

The *Stack Starter* by Robertson Reed Smith is not a formal tutorial on *HyperCard* scripting. It's an incredibly creative collection of stack parts like buttons, cursors, sounds, XCMDs, and scripts. There are great examples of animated buttons that react to the user in interesting ways. Several are set up to lay out their component icons for your inspection. Pull apart some of these animated buttons and see how they're scripted. It's very educational.

Check BMUG on HyperCard or the index at the back of this Newsletter to find nearly all the stacks listed in this article.

The best available animation tutorial stack out there is probably the the stack by Jeremy Ahouse of Waves Development.

The stack covers every form of *HyperCard* animation including button icons, card-to-card, dragging, fonts, and cursors. Each example is well documented and the scripts are fairly easy to read for someone familiar with HyperTalk programing.



Scripting & Developement Tools

The *Stack Starter* does much more for you than teach you scripting tricks. It's a great source of all kinds of useful bits and pieces for your stacks. Even if you can't figure out how to work the "ninja" into a stack, his biting sound can be handy. Look closely at the variety of buttons and controls for ones that work well in your stack metaphors. Unfortunately, there's so much here that it's far less work to just copy over the parts you want to your own stacks (with appropriate credit to Rob Smith, of course).

Another wonderful source for icons is the *Classical Icons* stack. This stack has cards containing over a thousand different icons including many commercial icons. These are saved in paint format and will require an icon-making tool such as the *Icon Maker DA* to convert them to an icon that can be used by *HyperCard*, but it's recommended that you create a new icon resource and *ResCopy* them rather than add them directly to your stack because the new icons can sometimes corrupt your stack.

To spice up your stack, BMUG has a fine selection of sounds from the software library. Your stack can sound off a dawn chorus of birds or cackle like the wicked witch of the west. Many of these stacks are freeware and those that are shareware only request a post card from you.

ResEdit is the general resource editor for the Macintosh. It lets you create and move resources. Resources are things like icons, cursors, sounds, dialog boxes, external commands, and other programmers building blocks that you want to be able to move from program to program as entities, instead of creating them and storing them in the main program code. *ResEdit* gives you a graphic interface for copying and editing resources, so you can modify an icon by clicking to change bits between black and white on a fat bits magnified icon.

While *ResEdit* is useful to the scripter, there are specific icon editors, cursor editors, etc. that have more powerful tools for working on any one particular kind of resource. Be careful if you use *ResEdit* to work on a copy of the stack. It's easy to delete important resources accidentally and possible to corrupt stacks with *ResEdit*.

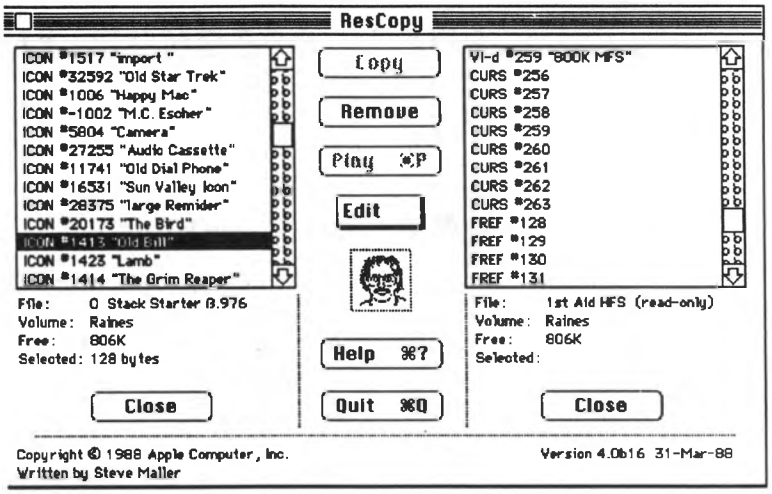
Three other very useful non-HyperCard tools (that are a must for the library of every serious stack scripter) are *Font/DA Mover*, *Iconstructor*, and *IconMaker*. *Font/DA Mover* is a must for transfering unusual fonts into your stack. It takes care of the problems of trying to find out which FOND resource goes works with the FONT resource you want to copy. *Iconstructor* is one of the best shareware utilities for *HyperCard* developers. Though it doesn't come in a stack, this utility easily helps you manipulate existing ICON resources and provides many useful tools to help you create your own. The third little gem is the *IconMaker DA*. It brings up an open square to replace your cursor that can be placed around any 32x32 pixel graphic on the screen, and when clicked will add an icon of what you've captured to any document that can accept ICON resources. [Just in case you need to cancel the operation

before you've clicked, just hit Command-period.]

The *HyperCard* answer to *ResEdit* is the *ResCopy XCMD* that is available in its own stack. The *ResCopy* XCMD displays a window similar to the *ResEdit* environment and adds a few extra tools as well as lacking certain *ResEdit* features. In *ResCopy* you are allowed to play selected sounds, rename and renumber resources, view icons and cursors (but not for editing), as well as copying resources from one stack (or non-HyperCard source) to another stack in the same way as you would use the *Font/DA Mover*. The only problem in using *ResCopy* is when you want to copy a font into your stack. Each font is comprised of a FONT and FOND resource which, and both must be copied to your stack. The problem arises because the FOND resources usually are not named to match their FONT resources and it can take a long time to find the right FOND navigation functions that get you to the item of interest which makes the Mac crash. You will have to fix the bug or go through the stack with arrow keys to see the interesting things collected here. It's worth the effort, there are a lot of useful XCMDs and XFCNs here. Version 1.3 is apparently out and probably fixes the bug, but it's not in the BMUG library yet at this writing.

The *Dartmouth XCMDs* vol. 1&2 stack by Kevin Calhoun and Roger Brown is a useful XCMD collection with the added benefit of source code in *LightSpeed C* and *LightSpeed Pascal* included for many of the XCMDs. This stack should help people learning to write their own XCMDs as much as those who will use the canned ones.

KardKeeper II is another toolchest stack for organizing a collection of stack parts. It's well designed but needs a faster machine than a Mac Plus to be very useful.



The *WavesSuperPopup* stack by Eric Carlson and Jeremy Ahouse presents a useful XFCN that gives you pop-up menus with control of text font and style, checked menu items, and icons in the menu items.

You just finished a stack that you've been working on for three months. You decide to "protect" it from prying eyes. You set a password and forget your stack while you go to the beach for the weekend. You come back to work the following Monday and in the midst of your hangover you realize that you can't remember your password! According to Apple, you're lost. This is why two wonderful persons by the name of Ned Horvath & Allan Foster wrote a very useful stack simply titled *Deprotect*. This stack is a simple one-card stack that will dig into any stack that has shut you out remove the password and set the userlevel to 5 (scripting).*

These are just a few of the many wonderful and useful sacks and *HyperCard* development tools available to you through the BMUG software library.

**Editor's Note: Caution! Deprotect will remove the password required to reset a "protected" user level, but if Private Access has been checked, and the stack requires a password to permit any access, DO NOT us Deprotect or you will be unable to get into the stack even with the original password*

Three Medium-Sized Hypertexts on CD-ROM

Copyright© 1989 by Jakob Nielsen

Current research on hypertext usability has mostly looked at smaller hypertext structures with perhaps up to a few hundred nodes of information. One reason is that it is simply difficult to construct and test larger structures, but another is the data storage problem inherent in larger information bases. The CD-ROM offers the potential of about 550 megabytes of data storage. This is enough space for very large hypertexts. The three CD-ROMs discussed in this article cannot be classified as big hypertexts, however, since they contain less than ten thousand nodes. Truly big hypertexts would contain hundreds of thousands or even millions of nodes, leading to challenging new issues in navigation support.

In this article I review the three CD-ROMs listed in Table 1. All three are really Macintosh *HyperCard* stacks and the one number which is most relevant for an estimate of their hypertext complexity is the number of *HyperCard* cards, since that forms an approximation of the number of nodes in the hypertext network. The data spent on storing digitized sound looks impressive and can certainly add to the experience of using the discs. But on these discs, sound is used purely for passive play-back, and is not user interactive.

The amount of storage space listed as "data" in the table is a somewhat misleading indicator of the amount and complexity of information in the hypertexts. For example, in the *Time Table of History*, about five of the ten megabytes are really scanned images used to illustrate a small subset of the entries. The time table itself is only about five megabytes of data, and even that number should be seen in light of the storage overhead associated with using HyperCard. If the actual information in the *Time Table* was stored in a more efficient (but less accessible) format, it would probably be just a single megabyte.

The Manhole: Interactive Fiction in Hyperspace

The Manhole is an interactive fiction for "children of all ages". It takes place in a fantasy world with talking animals and dragons where magic bean stalks grow into the sky. The fantasy world is displayed to the user in a first person perspective (i.e. graphically showing what you would actually see if you were positioned at the current location in the world) and users move through the world by clicking on the place they want to go.

It took me approximately two hours to get through all of *The Manhole*'s navigation space. The fantasy world of the disc actually

CD-ROM	HC cards	data	sound	index	disc size	list price
The Manhole	753	3 Mb	48 Mb	N/A	52 Mb	$60
Time Table of History	6199	10 Mb	9 Mb	4 Mb	23 Mb	$150
Electronic Whole Earth Catalog	9742	34 Mb	344 Mb	24 Mb	413 Mb	$150

Table 1. *Summary of data on the three CD-ROMs discussed in this article. They are all in Macintosh-readable format and contain* HyperCard *stacks. For each disc the table shows the number of* HyperCard *cards in the stacks on that disc. The "data" column shows the size in mega-bytes of the non-sound information in these stacks while the "sound" column shows the size of digitized sound on each disc. The "index" column shows the size of the separate files containing indices to the primary data.*

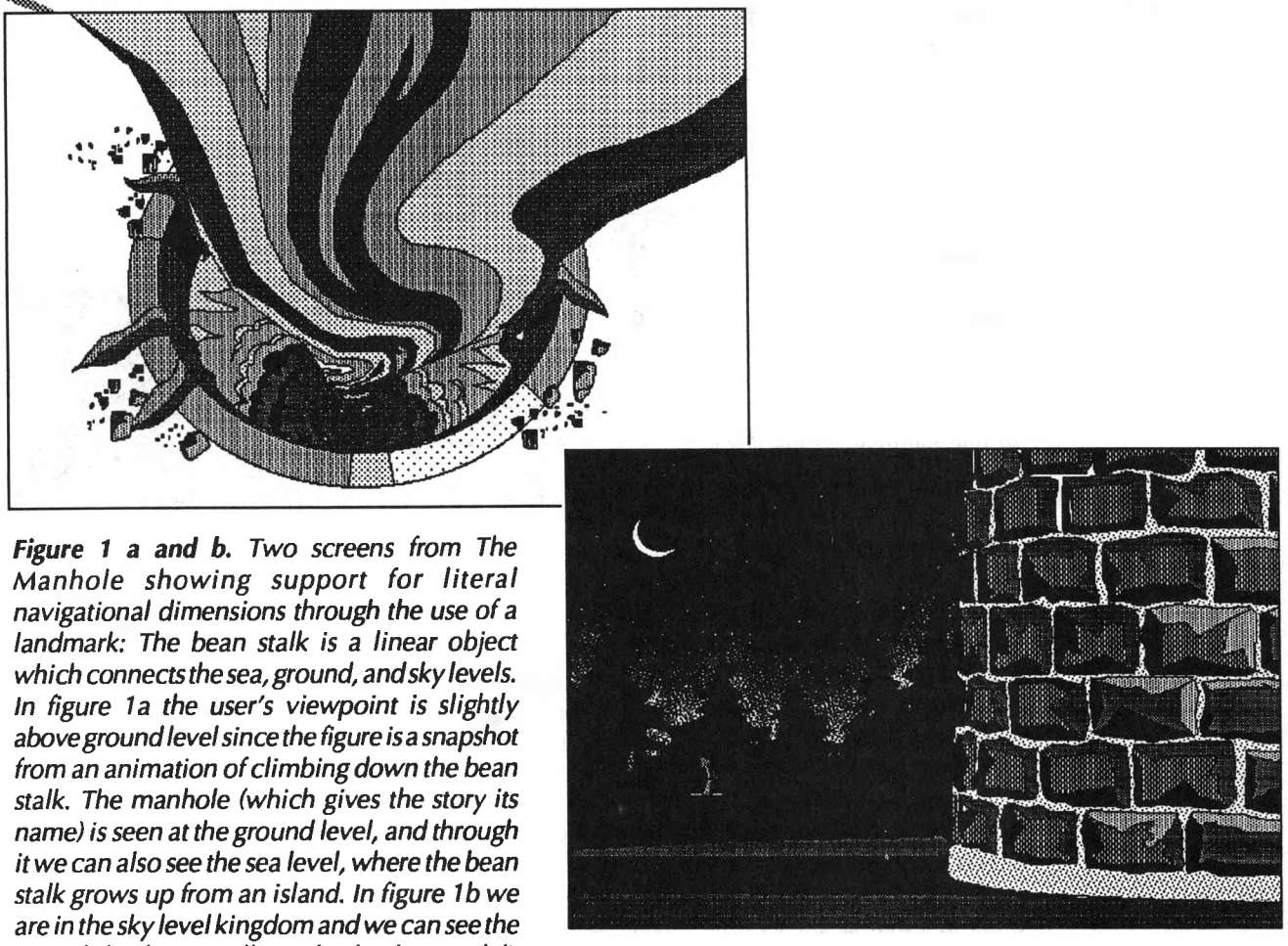


Figure 1 a and b. *Two screens from The Manhole showing support for literal navigational dimensions through the use of a landmark: The bean stalk is a linear object which connects the sea, ground, and sky levels. In figure 1a the user's viewpoint is slightly above ground level since the figure is a snapshot from an animation of climbing down the bean stalk. The manhole (which gives the story its name) is seen at the ground level, and through it we can also see the sea level, where the bean stalk grows up from an island. In figure 1b we are in the sky level kingdom and we can see the top of the bean stalk in the background (it grows up into the sky). If the user moves to the bean stalk in figure 1b and then climbs down, figure 1a will be displayed. The fact that the bean stalk is visible in the background of figure 1b gives the user a sense of location when looking at this screen, since it would not otherwise be obvious that the tower was located at the sky level.*

has some structure to it in a one-dimensional ordering of the locations from the bottom of the sea via the sea surface and the street with the manhole itself to a tower in the sky. There is a magic bean stalk which covers this distance, thus providing a kind of landmark. This navigation space is set up with little regard to normal conventions regarding landmarks and orderly user movement, however, and users are frequently magically transported to new locations and have to discover where they are in the navigation space. The very structure and connectivity of the navigation space did not even become apparent to me before I had spent about an hour in it.

Figure 1 shows one example of navigational support provided by the bean stalk landmark while Figure 2 shows an example of navigation violating traditional expectations. This latter kind of "magical" movement in the world of an interactive fiction adds spice to the experience of using the system and is probably good in a system having entertainment as its main purpose. It also seems to make it harder to acquire a conceptual model of the navigation space, however, so it would probably not be suited for more work-oriented situations.

The Manhole uses the English language to a large extent in the form of messages from various characters to the user. These messages are printed on the screen in cartoon-like speech-bubbles and are also read out loud by the system using good quality sound and some interesting voice characteriza-

Inigo Gets Out

AmandaStories

1025 Martin Rd.

Santa Cruz, CA 95060-9721

(408) 423-0565

Publicly Distributable (other hyperstories in the same series are commercial products, however)

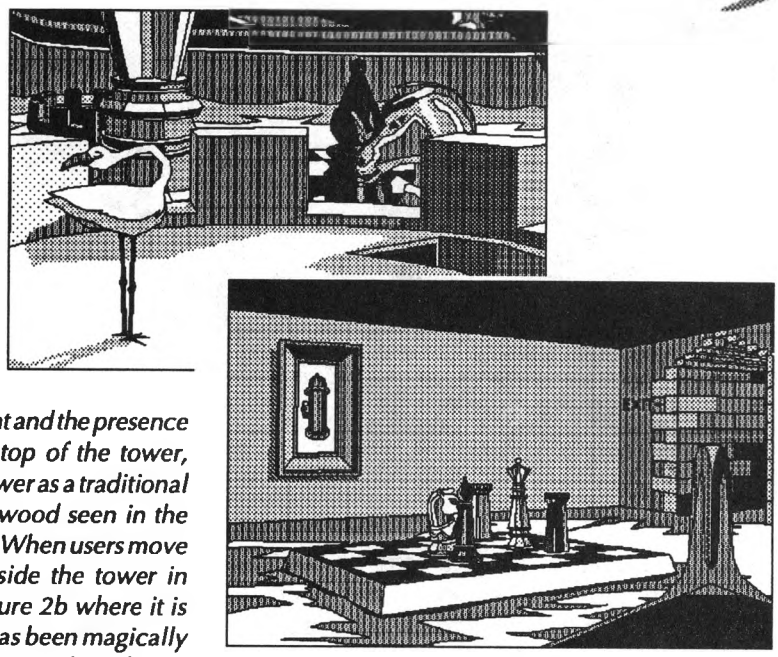


Figure 2 a and b. *An example of a magical navigational dimension from* The Manhole*: When users move into the tower from Figure 1b, they will see figure 2a after having been through some screens showing a winding stairway leading to the top of the tower. Because of this movement and the presence of the flamingo on the top of the tower, users initially view the tower as a traditional building located in the wood seen in the background of figure 1b. When users move to the objects seen outside the tower in figure 2a, they get to figure 2b where it is revealed that the tower has been magically transformed to a rook on a chess board (this visual pun is actually better in Danish where a chess rook is called a* tårn *("tower") so that the pun also becomes verbal). At the same time, the user's navigational location has been moved from the sky level to the sea level where the chess board floats in a labyrinth.*

tions. There are four main characters with which the user interacts: An elephant which paddles the user around in a small boat, a dragon, a walrus, and a rabbit. Each character has a tone of voice consistent with the way it behaves (e.g. the walrus is lazy and the dragon is a hip dude). Other sound effects, including both music and various naturalistic sounds are also used to good effect.

Because of its heavy use of English, I have not been able to experiment with the use of *The Manhole* by Danish children. The *Inigo Gets Out* hyperstory about the adventures of a cute cat, in contrast, is a totally non-verbal interactive fiction, and in studies reported at the UK Hypertext'2 conference in York June 1989, we found that Danish children were indeed able to move through that story easily and had great fun doing so. But *Inigo Gets Out* has a much smaller navigation space than *The Manhole* (only 31 screens) so this result will probably not generalize. In *Inigo Gets Out*, the user returns every few minutes to a single landmark location (a screen where the cat can either look in the bushes, follow a road, or climb a tree) which children easily recognized.

I did experiment with one test user of *The Manhole* in addition to myself. This person (an adult business professional) enjoyed using the system for about 30 minutes but frequently complained about the difficulty of knowing which parts of the screen were active hypertext anchors (clickable areas) and what the results of her actions would be. Also, she found it difficult to know when the system was in a state where it would respond to input from the user and when it was running through a pre-defined animation sequence. This was probably because *The Manhole* sometimes will display an animated screen (e.g. containing drifting seaweed) or play music in situations where it is really waiting for user input. In other situations, the user is prevented from performing any action until the system has finished displaying some animation. If the user clicks anyway, there is often a risk that the system will "remember" that click and use it to activate some choice on whatever screen is displayed at the end of the animated sequence. The test user frequently had problems with having a click made on one screen become active on the next screen but this is probably more a

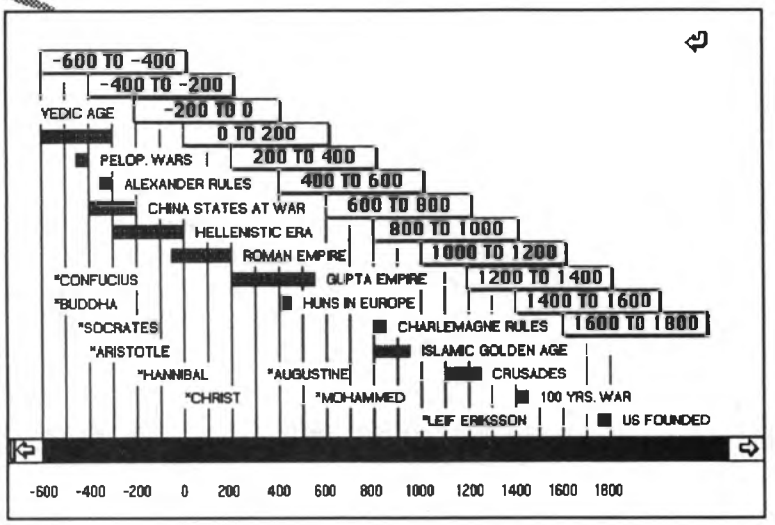


Figure 3. *Part of the actual time line from* The Time Table of History. *Clicking on one of the time intervals listed in boxes gives a menu of the articles associated with years in that interval.*

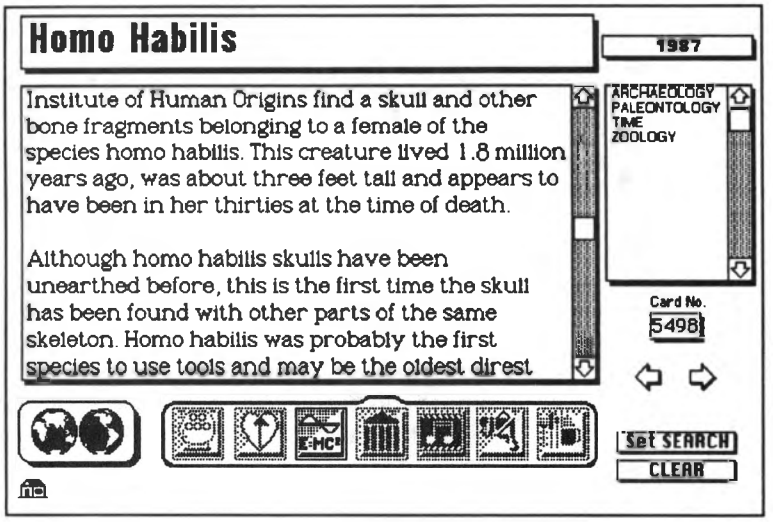

Homo Habilis
1987
Institute of Human Origins find a skull and other bone fragments belonging to a female of the species homo habilis. This creature lived 1.8 million years ago, was about three feet tall and appears to have been in her thirties at the time of death.
Although homo habilis skulls have been unearthed before, this is the first time the skull has been found with other parts of the same skeleton. Homo habilis was probably the first species to use tools and may be the oldest direst
ARCHAEOLOGY
PALEONTOLOGY
TIME
ZOOLOGY
Card No.
5498
E=MC²
Set SEARCH
CLEAR

Figure 4. *Screen design of the actual articles about historical events in the* Time Table of History. *Clicking on the "world" icon takes the user to a map showing the geographical location of the event. The icons to the right of the "world" icon are not clickable but are used to indicate the general classification of the article in seven different fields of human endeavor. Here the category is "science". The seven category icons hide a control panel of buttons which when activated allows the user to go to help screens, the time line screen containing the year associated with the current article, and a few other options. The left and right arrows shown here are displayed when no alphabetic search is in effect and allow users to step through the articles in chronological order.*

problem with the underlying *HyperCard* system than with *The Manhole.*

To conclude, *The Manhole* is indeed enjoyable and your initial experience the first hour or so you use it will give you a good idea of the feeling of reading/participating in the open or truly large-scale interactive fictions we will probably see in the future. Children will probably take more time to discover the closed nature of the fantasy universe and may even continue to enjoy moving through then-familiar territory after they have been through the entire navigation space and have discovered its internal structure.

Time Table of History: Unfulfilled Promise

The first thing to note about this product is that it is not a full history of the world but mainly a history of science and technology. The full benefit of a hypertext history will not be realized until we have a system which integrates all aspects of history in one hyperspace, no

matter whether we are talking about scientific innovation, literature and cultural events, or wars and political and social history, since those distinctions are partly artificial and limit our view of the total human situation through the ages. The *Time Table* has a small bit of integration in the form of its timeline which is shown in Figure 3. Each article about a historical event (such as that in Figure 4) is labeled with the year it occurred and has a link to the part of the timeline containing that year, thus enabling users to see what major events took place at the same time. It is also possible to go from the timeline to a menu of articles related to a specific interval of years, and to jump from that menu to the individual articles.

As a first approach at making a hypertext history, the *Time Table* succeeds partly, but only partly. Its main problem is that it seems to have been constructed fairly quickly, and as a result it does not provide comprehensive coverage even of the history of science. For example, there does not seem to be an article about the discovery of electromagnetism. Other cases present evidence of poor editing. For example, I performed a search for articles containing the word "Nielsen" and got a menu of two articles: "Audimeter" and "Nielsen Audimeter".

The **Audimeter** article was card 3483, contained the following text: "In 1935 the Audimeter is introduced, and becomes the basis for Nielsen ratings", and had the following keywords listed: "broadcasting, business, communication, information, television". Actually, in 1935 the audimeter would probably have been used for radio and not for television, but the TV keyword might be defended because it would seem the most relevant for present-day readers, considering the development of the Nielsen rating system in the period since 1935.

The **Nielsen Audimeter** article was card 3513 (thirty cards after the Audimeter article), contained the following text: "The foundation of Nielsen ratings, the audimeter, is introduced as a research tool" (in the year 1935 which was listed in a separate field), and had the following keywords listed: "communication, telecommunications".

Obviously, the writers of the *Time Table* did not coordinate their articles to ensure that the same event would only be described once. The fact that the same invention is described with two quite different sets of keywords also considerably decreases our confidence in the usefulness of the keywords.

Another classification problem can be seen in Figure ,4 which shows the screen layout for the historical articles. The article shown is about the 1987 discovery of a ***homo habilis*** skeleton and is therefore classified as a 1987 event. There is no discussion of the ***homo habilis*** species, however, in the chronological sequence of the *Time Table* which deals with the early humans. This section has articles on the emergence of the ***homo erectus*** and ***homo sapiens*** species but no cross reference to the ***homo habilis*** article which will only be discovered by a reader conducting an alphabetic search for occurrences of the word "homo."

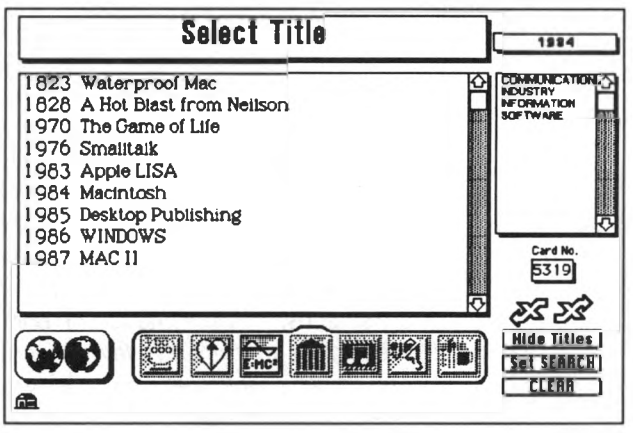


Figure 5. *The menu resulting from an alphabetic search for the word "Macintosh" in the* Time Table of History. *By clicking on one of the lines in the menu, the user can go directly to an article. The strange arrow icons are shown instead of the regular arrows when the user has performed a search and allow the user to go through the articles found in the search.*

There are also several inconsistencies in the user interface. The time line shown in Figure 3 is called "Time Line" in the system's main menu but "overview" in the control panel on the historical articles. And the **return-to-previous-screen** icon is displayed in the lower left corner of the world map, in the upper right corner of the time line, and in the lower right corner of digitized illustrations. A more serious problem is that there is no return option at all in connection with the various keyword searches. When users perform a search, they are put in a new system state with no access to their prior navigation behavior. For example, I read an article on the history of the Macintosh which mentioned Alan Kay. From there I did a general search on Kay's name to find what of his other work was discussed. This led on to some interesting articles on the Disney *Tron* movie on which Kay served as a consultant, thus showing the usefulness of having hypertext facilities on a history CD-ROM. But when I wanted to return to my primary reading (about the Macintosh), there was no way to backtrack. Since I remembered having searched for the word "Macintosh", I was able to redo the search and thereby find my way back to the article I had been reading when I was sidetracked by Kay. But humans should not be required to remember search terms and navigational locations, since computers are supposed to be good at exactly that kind of thing.

The alphabetic search is one of the most powerful features of the *Time Table*. A search is initiated simply by clicking on a word on the screen. This contextually situated low-overhead operation actually means that the searches can be viewed as a kind of hypertext link in a richly connected hypertext. When **everything** is an anchor, users don't need special symbols to draw their attention to areas where they can click, leading to less visual clutter on the screen and less learning overhead. The disadvantage is that the *Time Table* does not give author-specified cross-references to other articles of special relevance to the article currently being read. Such other articles of interest will not always have keywords in common with the current article, so the user will not be able to find them. For example, there is no reference to the article on HyperCard in the menu of articles about the Macintosh shown in Figure 5 because the word "Macintosh" is not used in that article.

Because index files have been pre-computed and stored on the CD-ROM, a search typically takes only five seconds, which is fairly acceptable. The result of a search is an indication of the number of articles found, whereupon the reader is given options to abandon the search or to see a menu of the hits. Getting the menu takes an additional eight seconds, making the total time for a search operation about 15 secs if we assume a reaction time of about two seconds. This response time is slightly too long and indicates that CD-ROMs have so slow seek time and data transfer characteristics that even more precomputing will be necessary than was done on this CD-ROM. For example, the menu of hits for each possible search term could have been stored directly on the CD-ROM instead of having to be constructed on the fly. It is also possible to search for boolean combinations of terms by calling up a special dialog box. Even in this case, precomputed menus could still be used since merging and pruning prestored lists for each term would be much faster than constructing a completely new menu.

The result of a search for the word "Macintosh" is shown in Figure 5. The system lists both the year associated with an article and its headline. This is a nice feature which enables us to skip the articles dealing with the inventor of the waterproof raincoat without having to see the articles, if our interest is actually the computer with the same name as that inventor. One reason this list works well in spite of the very short label for each article, is that historical articles have a very powerful organizing parameter in the form of years which can easily be sorted into linear lists preserving their natural order. The other reason is that the editors (in most cases) have been able to come up with understandable and meaningful short titles for the articles. This is an advantage of a human-generated hypertext which, is often not found in computer-generated structures where meaningful titles are hard to come by for many hypertext nodes.

Several other features of the *Time Table*

Time Table of History

Xiphias

13464 Washington Blvd.

Marina Del Rey, CA 90292

(213) 821-0074

Commercial product, $150

The Electronic Whole Earth Catalog

Brøderbund Software

17 Paul Drive

San Rafael, CA 94903-2101

(800) 521-6263 or (415) 492-3500

Commercial product, $149.95

Figure 6. *The main table of contents of the* Electronic Whole Earth Catalog. *This screen has the status of a landmark in the hypertext since it is always directly accessible from any other screen by a click on the Earth icon.*

also show the promise of a hypertext history of the world. Articles about events with a specific geographic location have links to a world map where that location is pointed out. It is possible to perform a search on the name of a country and get a menu of all articles associated with that country but it is not possible to click on the map to get such menus. For off-planet events, there is a link to an animated sequence inspired by the classic film *Powers of Ten* which zooms out from the Earth surface to Earth orbit, the Solar system, the Milky Way galaxy, etc. This animation is a good application of the power of the computer to do things with on-line documents which are impossible on the printed page. As a special kind of hypertext, articles dealing with chemical elements are linked to a screen with the periodic table of the elements where fundamental properties of that element can be seen. But again there are no reverse hypertext links from the periodic table to the relevant articles. Users have to perform keyword searches which removes them one step from the potential discovery of connections between the classification of an element in the periodic table and its use in science and technology.

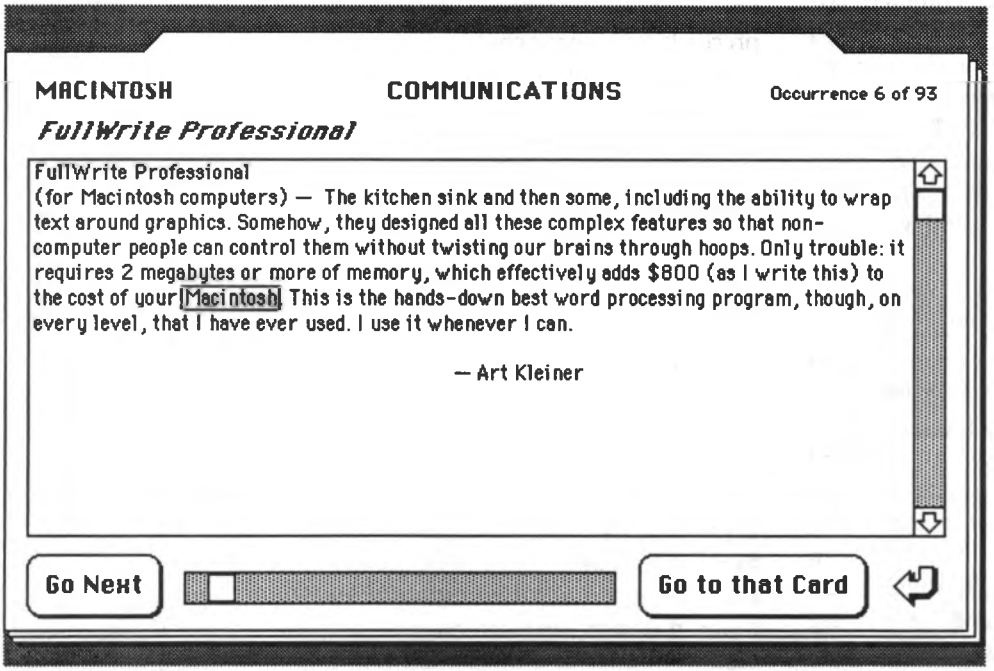

MACINTOSH
COMMUNICATIONS
Occurrence 6 of 93
FullWrite Professional
FullWrite Professional
(for Macintosh computers) — The kitchen sink and then some, including the ability to wrap text around graphics. Somehow, they designed all these complex features so that non-computer people can control them without twisting our brains through hoops. Only trouble: it requires 2 megabytes or more of memory, which effectively adds $800 (as I write this) to the cost of your Macintosh. This is the hands-down best word processing program, though, on every level, that I have ever used. I use it whenever I can.
— Art Kleiner
Go Next
Go to that Card

Figure 7. *The result of a full text search in the* Electronic Whole Earth Catalog *for the word "Macintosh".*

To conclude, *The Time Table of History* shows a lot of promise but it has to be developed much further and edited more carefully to actually fulfill that promise. It should be seen as a preview of things to come in the hypertext field.

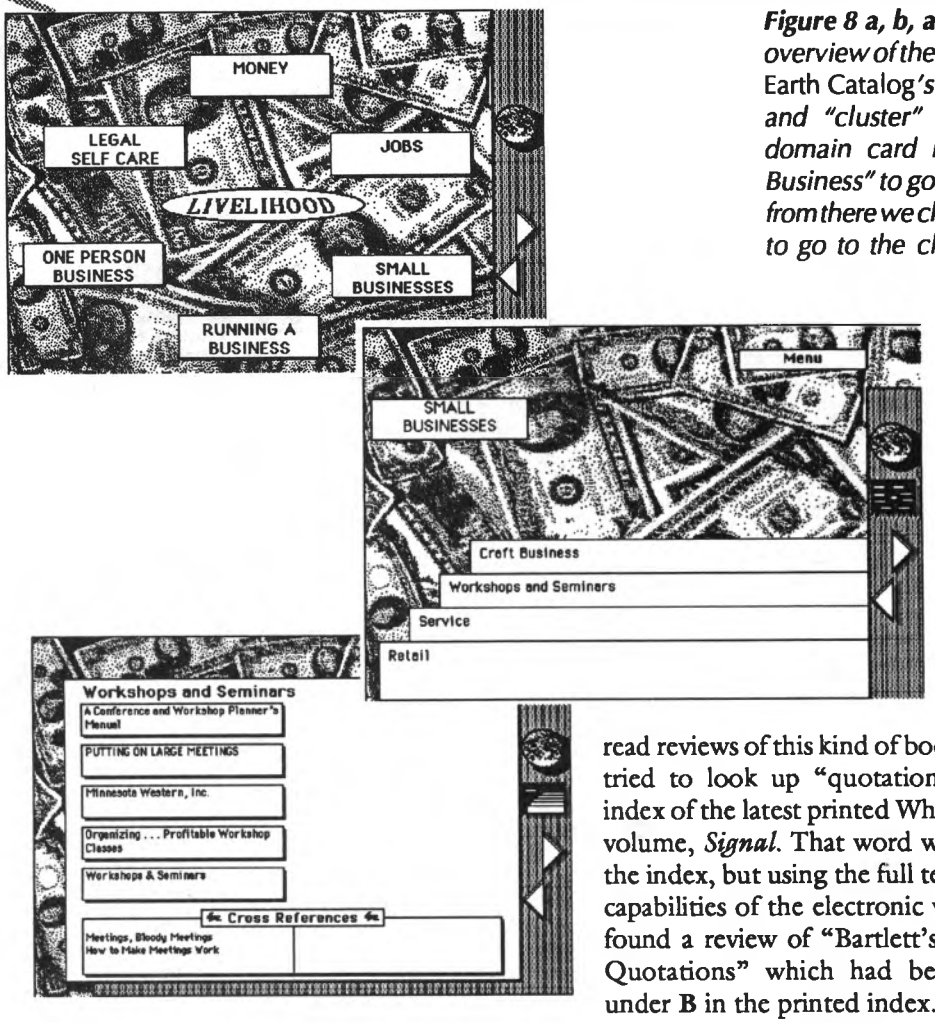


Figure 8 a, b, and c. *The hierarchy of graphical overview of the contents of the* Electronic Whole Earth Catalog*'s "domain" (=chapter), "section", and "cluster" (=subsection) levels. From the domain card in Fig. 8a we click on "Small Business" to go to the section card in Fig. 8b and from there we click on "Workshops and Seminars" to go to the cluster card in Fig. 8c. From this screen we can finally get to read the actual contents of the* Catalog *by clicking on the titles of various articles. We could go to Fig. 9a by clicking on "Organizing...Profitable Workshop Classes", or we could take a hypertext jump to another "domain" by clicking on the cross reference to "How to Make Meetings Work" which would take us to Fig. 9b.*

The Electronic Whole Earth Catalog: Structure to the Universe

The *Electronic Whole Earth Catalog* is a CD-ROM version of the printed Whole Earth Catalogs which has been updated to early 1989. The main difference between the printed and the CD-ROM versions is that the CD-ROM contains a large number of digitized sound clips of the various records reviewed in the Catalog. The CD-ROM seems to contain the same illustrations as the printed version, albeit using the somewhat poorer resolution of scanned Macintosh screen images.

The sound clips is a major advantage of the electronic version but is also has better search options than the printed book. For example, since I am currently interested in buying a quotation dictionary, I wanted to read reviews of this kind of book and so tried to look up "quotation" in the index of the latest printed Whole Earth volume, *Signal*. That word was not in the index, but using the full text search capabilities of the electronic version, I found a review of "Bartlett's Familiar Quotations" which had been listed under **B** in the printed index. Figure 7 shows the result of a search for the word "Macintosh". The system indicates the number of hits and the user can page through them one at a time, seeing the search word in context on the screen in Figure 7 and jump from there to the actual article if so desired. The disadvantage is that the user never gets the overview of all the hits which is provided by a single out-of-context list such as that used by the *Time Table of History* (see Figure 5).

The *Electronic Whole Earth Catalog* is big enough a hypertext with its almost 10,000 nodes to require really good support for user navigation, and this has been achieved through a fairly strict structuring of the information. The *Catalog* is first divided into so-called **domains** which would correspond to chapters in regular books. The main table of contents screen in Figure 6 shows a list of the 13 domains. The domains are further

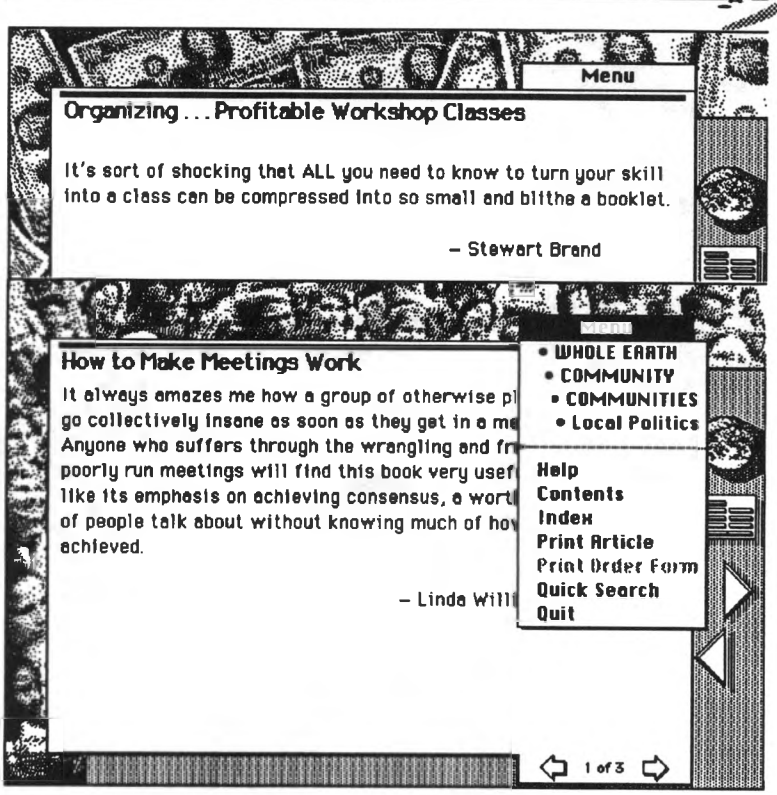

Menu
Organizing . . . Profitable Workshop Classes
It's sort of shocking that ALL you need to know to turn your skill into a class can be compressed into so small and blithe a booklet.
– Stewart Brand
How to Make Meetings Work
It always amazes me how a group of otherwise pl
go collectively insane as soon as they get in a me
Anyone who suffers through the wrangling and fr
poorly run meetings will find this book very usef
like its emphasis on achieving consensus, a wort
of people talk about without knowing much of ho
achieved.
– Linda Will
• WHOLE EARTH
• COMMUNITY
• COMMUNITIES
• Local Politics
Help
Contents
Index
Print Article
Print Order Form
Quick Search
Quit
1 of 3

Figure 9 a and b. *Two articles from the* Electronic Whole Earth Catalog. *Fig. 9a is an article from the "Livelihood" domain, while Fig. 9b is from the "Community" domain as indicated by its differing background picture showing a large group of people. In Fig. 9b we have also called up the pop-up menu which is accessible from most screens by clicking on the* ***menu*** *button.*

subdivided into **sections** which again are subdivided into **clusters** (sub-sections) which then contain the actual **articles**. Figure 8 shows a progression of domain-section-cluster contents screens. Note that each level of the hierarchy has its own layout of the listed items and that each of these layouts is repeated in a stylized representation in the icon for "go one step up the hierarchy" in the level below.

The entire main screen-domain-section-cluster-article hierarchy has five levels. This might in many cases be considered as too confusing for especially the novice or casual users who will probably dominate as users of this kind of reference work. Fortunately, careful design of the user interface has alleviated much of the potential confusion. First, as already noted, the screens for the different levels of the hierarchy have visibly different layouts. This makes it possible for somewhat experienced users to recognize the level on which they are at any given time. And second, each domain has a unique background pattern which is shown prominently on the domain card (e.g. Fig. 8a) and in a simplified representation on the main table of contents (Figure 6). This background is repeated on each card belonging to that domain on both the section, cluster, and article levels as shown in Figures 8b, 8c, and 9a. Figure 9b shows that the background pattern will indicate to users when they have moved to another domain through a hypertext jump.

It will require some experience in the use of the *Catalog* to be able to identify all the domains from the small piece of background visible on most of the cards but it is not absolutely necessary to be able to do so. The system includes a facility for displaying the names of the current domain, section, and cluster through the pop-up menu shown in Figure 9b and this menu can also be used to directly jump to the relevant higher-level node. The user's sense of navigational location and hierarchical depth is reenforced through the visual techniques used to transfer the user to the destination for such a menu-based jump up the hierarchy. The system will take the user up the levels in the tree one level at a time by a fairly rapid series of fades from the current screen through each of the intermediate higher levels of screens until the destination is reached.

The fades are actually HyperCard *dissolve* visual techniques which are also used when users choose to move up a single step in the hierarchy by clicking on the icon below the Earth icon. This visual effect works fine when

seen by itself but unfortunately contrasts with the use of an *iris open* visual effect for the process of moving to lower levels of the hierarchy. To emphasize that the two movements are opposite directions of the same navigational dimensions, I would have preferred to have seen similar visual effects used for both these transitions. For example, the *iris open* could have been retained for moving deeper into the hierarchy, while an *iris close* could have been used for the opposite movement of going up the hierarchy.

A combination of icon design and animated visual effects is used to help users understand the difference between moving between screens within one given article and between different articles. In the article screens shown in Figure 9, the regular left and right arrows at the bottom of the screen are used to let the user read the series of screens belonging to that article while the triangular arrows at the right side of the screen are used for transfers to other articles in the current cluster. It would have been easy to confuse these two different kinds of movement if it had not been for the visual effects. For movements within the article level, standard speed *scroll left/right* effects are used to give the feeling of moving to the right or left in a book. And for moving between articles, the same *scroll* effects are used but with a slower speed indicating that the user is moving a longer distance. The two different kinds of scrolls really look quite different but still give the user the feeling of moving in the same general class of navigational dimension (i.e. horizontally within a given level of the hierarchy). One might assume that movements on even higher levels of the hierarchy should have been associated with progressively slower visual effects, but they would probably have been too slow to be comfortable. Indeed, the *Catalog*'s user interface designers have chosen to use regular speed scrolls for movements on the higher levels. The best conceptual model to give users for the scroll speeds might then be not that they indicate the absolute distance traveled, but that regular speed indicates movement on the current level and that slow speed indicates movement on a higher level than the one to which the current screen belongs.

Even though the user interface support for navigation is very good, the *Catalog* has problems in other parts of its user interface. For example, there are two kinds of screens showing the information in a given domain. One is the graphical overview shown in Figure 8a and another is a textual outline not shown here which looks very much like a traditional table of contents listing major and minor headings with various levels of indentation. The screen with the main table of contents (Figure 6) gives the user the following explanation of how to get to this domain information: The user is told to "Click NAME to enter domain" and to "Click PICTURE for domain contents" which means that going to the graphical overview is called "entering the domain" and that going to the textual outline is called "seeing the domain contents". This choice of words is rather poor since it is not obvious what the difference between the two descriptions is, and there is no good association between the descriptions and the results either. People going to the textual outline could also be said to having entered the domain because they can go directly to the articles by clicking on their listings in the outline, and people going to the graphical overview could also be said to having seen the domain contents, albeit only on a high level. This problem is enlarged by having the text fields in Figure 6 refer to the mainly graphical overview screens and having the graphical fields in Figure 6 refer to the mainly textual outline screens. Using the opposite jump assignments would have maximized the stimulus-response compatibility and thus reduced the user's need to read the explanatory text.

Even though the *Catalog* includes many hypertext cross reference links (as shown in Figure 8c) and an option to jump to the location of a search term (as shown in Figure 7), it has no explicit option for users to return to wherever their location in the information space was prior to the jump. If users know how to do so, they can of course use HyperCard's built-in backtrack facility to go to previously seen cards one at a time, but since users often micro-navigate upon arrival at a new destination, there might be a fair number of intervening cards before the user actually returns to the point of departure for a jump.

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Other problems are more related to the information which is put into the framework of the user interface design, and not to that design itself. Of course this distinction is only of interest to user interface professionals, since normal users will only care *whether* it is easy to do what they want to do, and not *why* it may be easy or difficult. An example of this class of problem is the clusters in the Research section with the names "Reference Books I", "Reference Books II", and "Reference Books III" which surely do not reveal very much about their respective contents. The design of the *Catalog* user interface requires that articles are grouped in meaningful clusters which can be given telling names for display in section cards, pop-op menus, etc. If that is not possible, then an alternative user interface design is called for, but in this case I suspect that it would have been possible to group the 18 articles in two or three semantically significant clusters.

Another problem is that some articles are too long for the purely linear access mechanism in this user interface design. For example, the article "Intelligence Magazines Survey" takes up 25 screens, starting with a nine screen survey discussing the merits of various espionage magazines followed by 16 screens of addresses for magazine subscriptions. It would have been nice to have been able to take a hypertext jump directly from the discussion of a magazine in the first part of the article to the address of that magazine in the end of the article instead of being forced to do a linear search for the magazine through all 25 screens, but the *Catalog* does not support hypertext links to destinations within a given article. Again, a change to the overall user interface design might not have been needed if the text of this article had been split up into several smaller articles.

To conclude, the *Electronic Whole Earth Catalog* has an impressive user interface design using structure and various interaction techniques to support the user's navigation and sense of location. It is also useful for actual, real world tasks because of its high-quality information and good search and navigation facilities.

Making Special Cursors in HyperCard

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I thought I was so smart when I figured out how to make special Icons in HyperCard. But that satisfaction was short lived when I saw a funny little sequence in Robertson Reed Smith's *Stack Starter*. When you open his stack a monster bites off the pointing finger off the hand cursor. I couldn't believe my eyes. How did he do it? Worse, for the longest time all the Mac hacks I talked to could only repeat the mantra "use *ResEdit.*" Call me silly, but I got an anxiety attack at the mention of *ResEdit*. The good news is that I found a little desk accessory called *Cursor Maker* which works just like *Icon Maker 2. 1*. The bad news is that there is no general purpose cursor editor similar to *ICONstructer*. I finally grew up and braved *ResEdit*, and you can too. This article will walk you through the basics of what cursors are, using *Cursor Maker* and, (hold your breath) *ResEdit*. First some cursor basics.

Cursors are just like Icons only smaller. If you recall my previous articles, icons were defined as 32x32 pixel squares. Cursors are 16x16 pixel squares (see figure 1).

Cursor Maker lets you capture a 16x16 pixel square from your screen into a CURS resource. If you recall my previous articles, my strategy for making icons was to make a graphic in HyperCard's painting tools, and then take a snap shot of it with the DA *Icon Maker 2. 1. Icon Maker 2. 1* turned the paint tool cursor into a 34x34 square which **completely surrounded** the icon graphic. I obligingly created a 34x34 pixel square which would magically disappear when *Icon Maker 2. 1* would be sitting right on top of my graphic.

I'm sorry to say that this approach is not consistent with the way *Cursor Maker* works. *Cursor Maker* puts up an exact 16x16 pixel square. This means that your cursor boundaries will actually intersect that square. We still need to create an 18x18 pixel square in the background but when *Cursor Maker* is just over it you'll see a perfectly outlined box.

An easy graphics starter for cursors is to use the little rabbit which is included in your 12 point Geneva font. Since we want this in paint text, tear off the pull down the **Paint** menu and double click on the **text** tool. This should bring up the text tool dialog box where you can confirm that Geneva and 12 points are picked. Then take the cursor and click in some clear area so that the insertion bar now blinks. Type **option-shift-~**, and a little rabbit should appear. (If you don't believe me, try it out in *Key Caps* first.) Now choose the selection tool and hold down the **command key** while dragging the selection rectangle around the rabbit. When you release to mouse the marching ants should snap right to the rabbit. Drag and center the rabbit into your 18x18 box. Double click the pencil tool to get into fat bits and make sure of your positioning. Since all of your painting tools are available in fatbits, try them out.

Choose *Cursor Maker* from the **Apple** menu and then select **Set Cursor Target** from the *Cursor Maker* menu. Your paint cursor is now a 16x16 pixel square. Center it over your graphic and click the mouse. Since our surround square is 18x18, it will be perfectly hilited when *Cursor Maker* is centered over it.

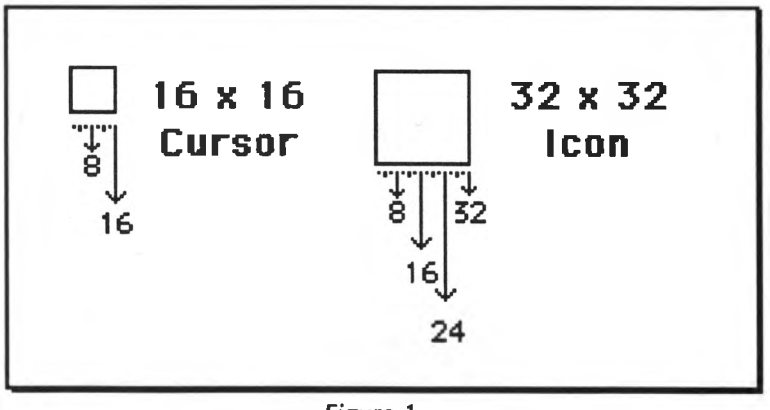


Figure 1

Now choose **Use Created Cursor** and you'll see your graphic in place of the arrow cursor. If it looks good, continue, but if your

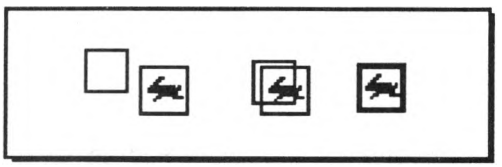
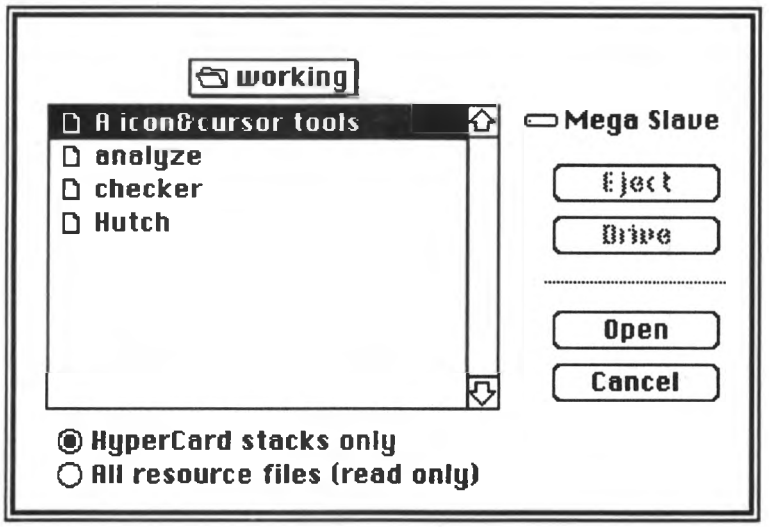


Figure 2

mouse slipped as you clicked it, just select **Set Cursor Target** and try again. If you are satisfied then select **Save to CursorFile**. *Cursor Maker* will create a file called "MyCreatedCursors" right at the base of your desktop. Use *Find File* to locate it if you can't see it right away. Now the fun part: getting it into *HyperCard*.



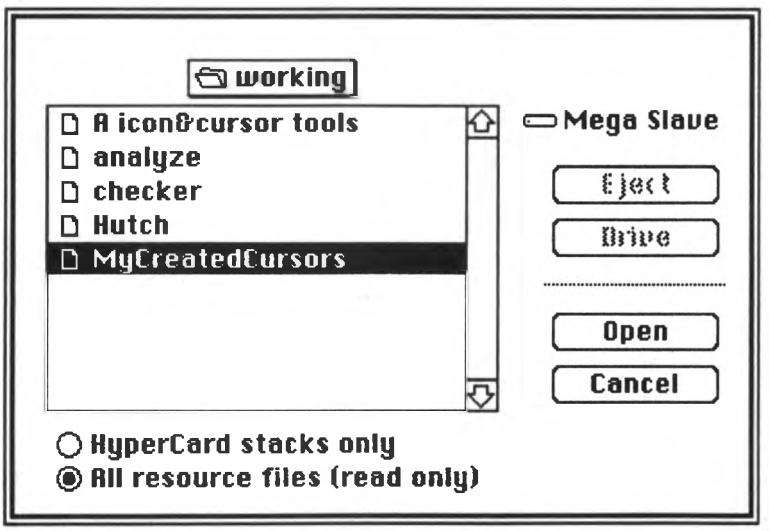


Figure 3

Open up Steve Maller's *ResCopy* stack. Click close on the window that lists the resources in his stack and then click open to find the stack you want to place the rabbit in.

Click the open button on the other side, and click the radio button marked **All resource files (read-only)** as in figure 3. This allows *ResCopy* to list the file "MyCreatedCursors," assuming you you've found what folder it's in. I made life easy for myself by moving the file into the same folder as my *Hutch* stack. Double click the file and you'll find a sole CURS resource posted in the window. Double click on it and you'll enable the copy button in the middle as well as change the cursor into the rabbit. Click copy to send it over to your destination stack.

The other window in *ResCopy* should now show that CURS resource. But we have a cursor with no name. At this point you could use it right away in script but just to make this easier, let's select it and drag down on the edit button to get the **Rename** option. Set the name of the cursor to "MyRabbit". This way you'll be able to invoke the cursor by name as well as by number. Click on the quit button and enter your target stack. Time for some instant gratification.

Open up the card script again to this stack and type the following:

```
on rabbit
   set the cursor to
"MyRabit"
   wait 2 seconds
end rabbit
```

Click **OK** in the script window and call up the message window. Type "rabbit" and press return. You'll see that rabbit cursor appear for two seconds. Pretty good, eh?—and painless too!

But our cursor is afraid of the dark. Move your rabbit cursor over some dark area on your card and it disappears. Ever wonder how the arrow cursor is always visible on the desktop? In addition to the 16x16 pixel graphic of the arrow cursor, a cursor resource has another 16x16 pixel picture which tells the Mac to clear out the screen behind the cursor graphic. This extra picture is called a mask. The arrow cursor is thus always surrounded in white because of this mask.

The last feature of cursors is their hotspot. While the cursor graphic may be anything within the 16x16 pixel square, the mouse is seen to exist at only one screen pixel location at a time. This is called the hotspot. Ever wondered why the paint bucket gladly trashes your pictures even though you could swear the bucket on the other side? This was because as far as your paint program was concerned if that particular tip of the paint was outside your graphic, the whole bucket was outside. For this article we won't be setting the hot spot. *Cursor Maker's* default sets the hotspot in the center of the cursor.

We don't have to live with *Cursor Maker's* default mask. *ResEdit* will let us edit this mask as well as quickly duplicate and alter our cursor. What we need to do is fix up the mask so our rabbit won't disappear in dark graphics. While we're at it, let's create some cursor animation by making another rabbit in *ResEdit* with different feet and ear positions. We can then switch between these two cursors to animate the rabbit, indicating the course of a script. Happily we don't have to worry about the hotspot since we are only trying to affect the cursor's appearance. Now to *ResEdit*.

The Big Lie is that *ResEdit*, once booted, will run wild on your disk leaving it a data wasteland. When I first got my Mac, I remember reading all those power user tips in the magazines suggesting *ResEdit,* always including a stern note of caution. At that time, *ResEdit* itself was still a buggy program, or at least the copy I had of it. Making matters worse, at that time I took personal responsibility for all crashes. I was afraid! Fear no more. The current version, 1.2b4, is stable. If you only work on your "MyCreatedCursors" file, there is no danger of ruining your other files.

Start up *ResEdit* and find the file "MyCreatedCursors" in the opening window. Double click on it and you'll see another window with CURS listed on it. Double click on that and you'll see a little picture of your cursor. Now double click on that again and you'll see a three picture grid. This represents the cursor itself, its mask and its hot spot. More interesting is the bar underneath these three pictures. (see figure 4)

This bar shows what the cursor will look like on a variety of backgrounds. Start surrounding your graphic with black pixels in the middle window. You'll start seeing a white outline appear on the gray and black parts of the bottom bar. Experiment here. In figure 4 I have already added pixels to the

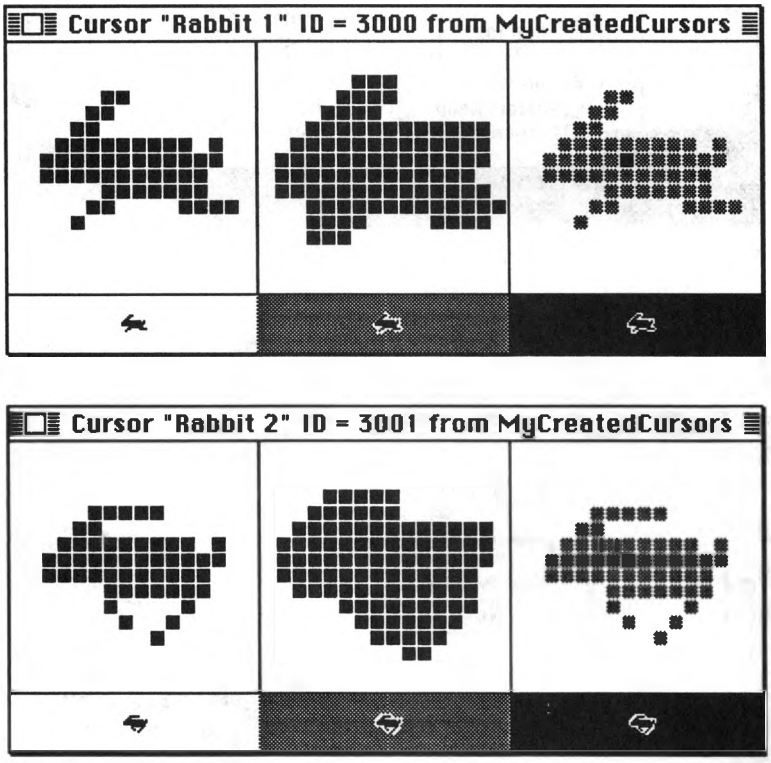


Figure 4

mask. This produced a thin white outline which you can see in the lower right black bar. You should also notice that I had already renamed and renumbered both cursors before the screen shots were made.

To do this yourself, choose **Get Info...** from the **File** menu and type in "Rabbit 1" into the name box and put 3000 into the ID box. The check boxes are best left alone. You should make sure that box marked **Locked** is left **unchecked** (see figure 5).

Close the windows until you get the one that just shows your cursor. If it is not surrounded with a square, then select it with the mouse. Choose **Duplicate** under the **Edit** menu. Another cursor just like the one you had should pop up on the screen. Choose **Get Info...** again and change the name to

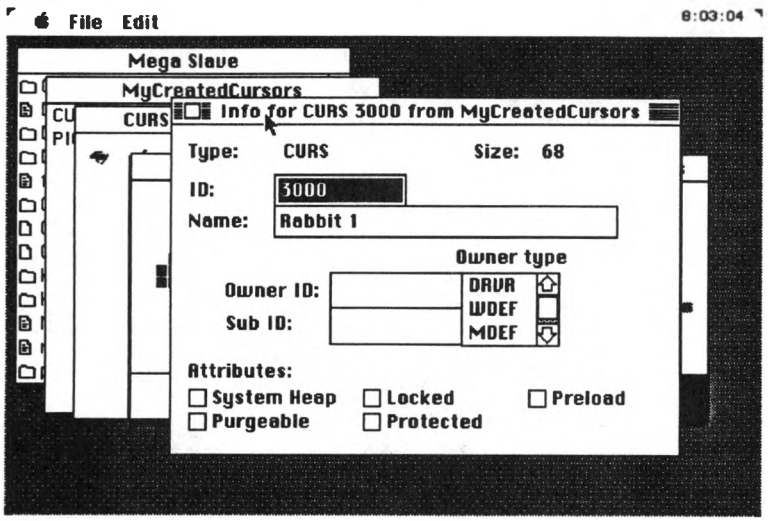


Figure 5

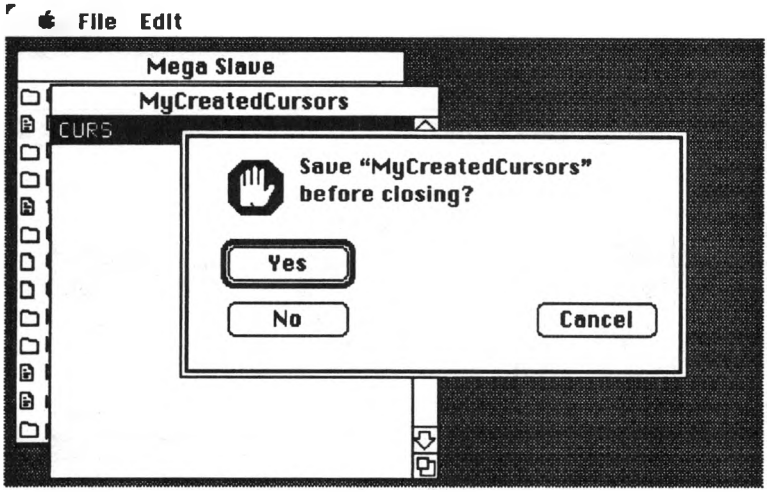


Figure 6

"Rabbit 2" and set the ID to 3001. Close the window and then double click on that cursor.

Turn the pixel squares on and off to change the appearance of the ears and legs. *ResEdit* is just like fatbits in *HyperCard* or *MacPaint*. You can copy my example if you like for the second cursor. (see figure 4). As you become comfortable in *ResEdit's* cursor editor, experiment with the different effects you can make with the cursor and mask. *ResEdit* immediately shows the results on that bottom bar. If you want to complete this project copy the bit patterns in figure 4. Just before you close the window which represents the "MyCreatedCursors" file you get one last chance to leave your file unchanged (see figure 6).

Quit *ResEdit* and reopen *ResCopy* to copy these two cursors into your stack. You'll notice that they already have the names and numbers you gave them in *ResEdit*. . We could have used *ResEdit* for this step, but I prefer to use *ResCopy* when copying resources into stacks. Now for some much deserved delayed gratification.

Go back to your stack and reopen the card scrip of your stack. Change the script to read:

```
on rabbit
  repeat with i = 1 to 20
    set the cursor to (3000 +
    (i mod 2))
    wait 2
  end repeat
end rabbit
```

When you start this script again from the message box, you'll see your rabbit running. The script is not all that tricky. The crucial part is having your two cursors sequentially numbered so the fragment (3000 + (i mod 2)) will always produce either 3000 or 3001—the very same two ID numbers of our two rabbits. You can make smoother and more complicated cursor animation, such as the spinning hands on the watch or sand falling in an hourglass. All it takes is a series of cursors which are sequentially numbered so you can call them in order by script.

For the meantime, brave through *ResEdit* and use *Cursor Maker*. *ResEdit* is not all that scary, but be aware that its ease of use belies its power. I have barely scratched the surface. Rumor has it that a comprehensive manual is in the works at Apple. Until then, use the program with moderate caution but by all means don't avoid it. Remember if you only work on your "MyCreatedCursors" file you have nothing to fear. All those cursor animation tricks should be a little more approachable now. Armed with *Icon Maker 2. 1, ICONstructer, Cursor Maker, ResCopy* and *ResEdit* there is nothing between your imagination and HyperCard's fancy.

Journal of HyperActivity

by Michael Lyons

Generic Table of Contents Stack

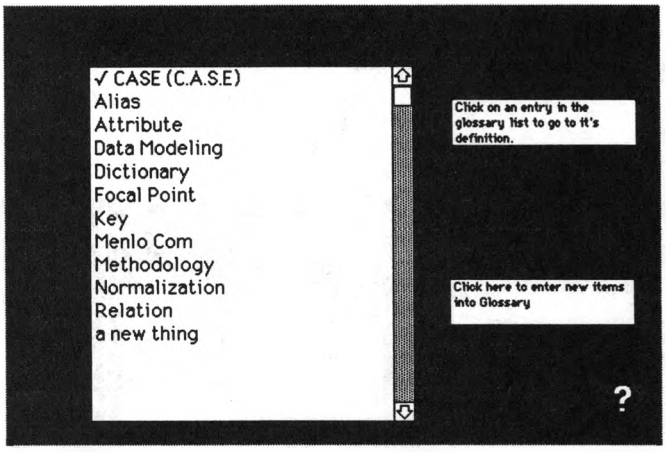
Recent contract work has given me some experience in intermedia. As Staff Writer at Menlo Business systems I developed HyperCard stacks, as well as wrote and laid out manuals and marketing literature. I was also able to use electronic methods to augment group activities on the network as well as using the computer with the overhead to help focus idea sessions.

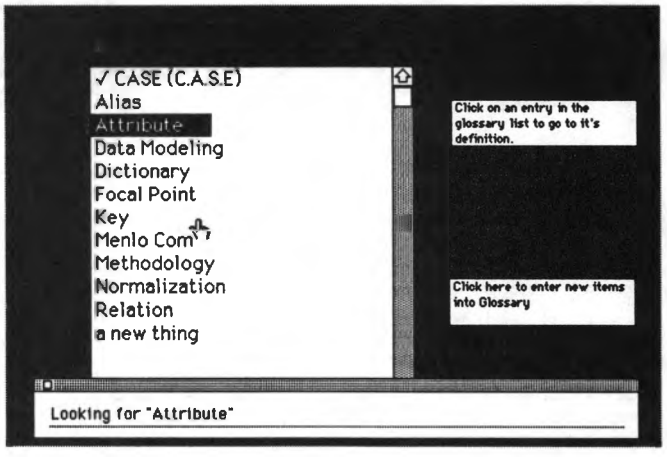
The Table of Contents stack at right is a good idea processor, easily adapted to any domain. Installed on file server everybody could look up or enter in the meaning of words.

This stack uses a general "Table of Contents" field, developed in colaboration with Larry Bellis. You put anything in the TOC, click on it to go to a card, if it exists, and if not it will create it(See Figure 2)

When you click on the item in the TOC field, it becomes hilited. Then a message appears saying it is searching for the item. Then it goes to that card.

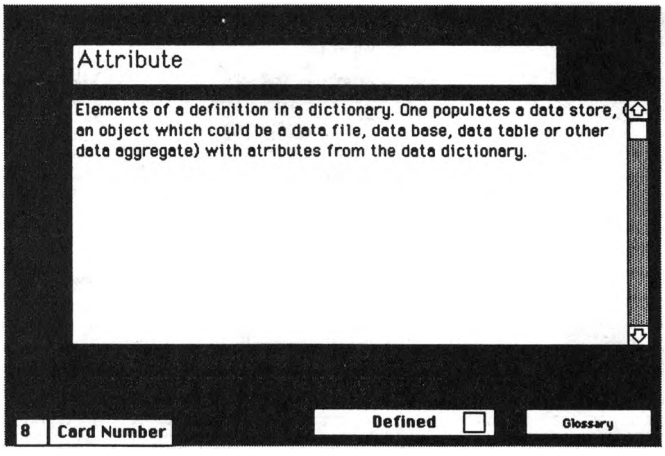
This feature of flashing the message as visual feedback to the user has a nice HyperCard feel to it.





When you get to the Item card, you find a background field that names the item of the card and a background field that allows you to write something down about the item.

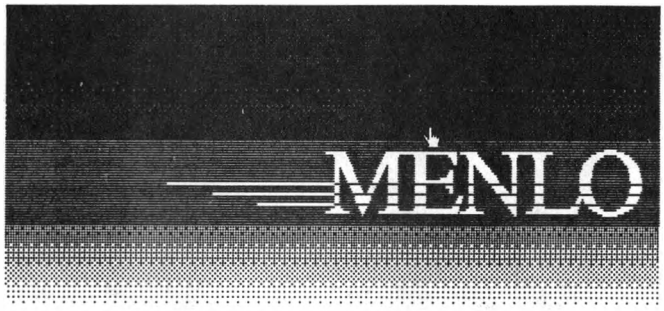
There is the Glossary button to return you to the main TOC(See Figure 3)


Attribute
Elements of a definition in a dictionary. One populates a data store, an object which could be a data file, data base, data table or other data aggregate) with atributes from the data dictionary.
8
Card Number
Defined
Glossary

MacMenlo Marketing Stack

This HyperCard stack was developed as marketing literature for MacMenlo, a delux terminal emulation software for bringing the power of the Tandem to the Mac.

In the panel at left below we see the TOC field being used to pop up a discussion of an issue, and then that discussion being used to connect to a testimonial

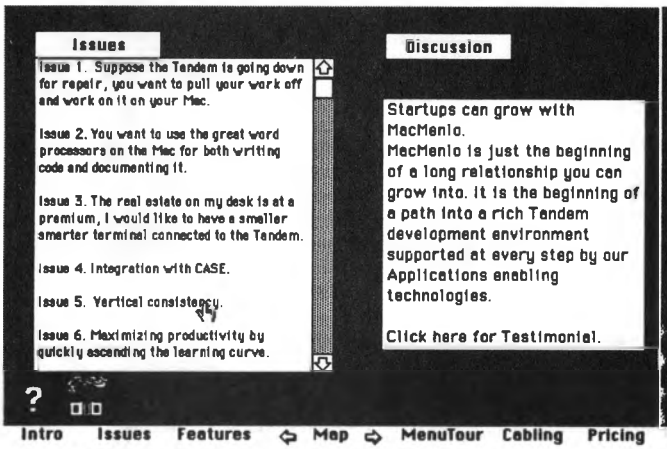


Menlo Business Systems Presents:

*MAC*MENLO

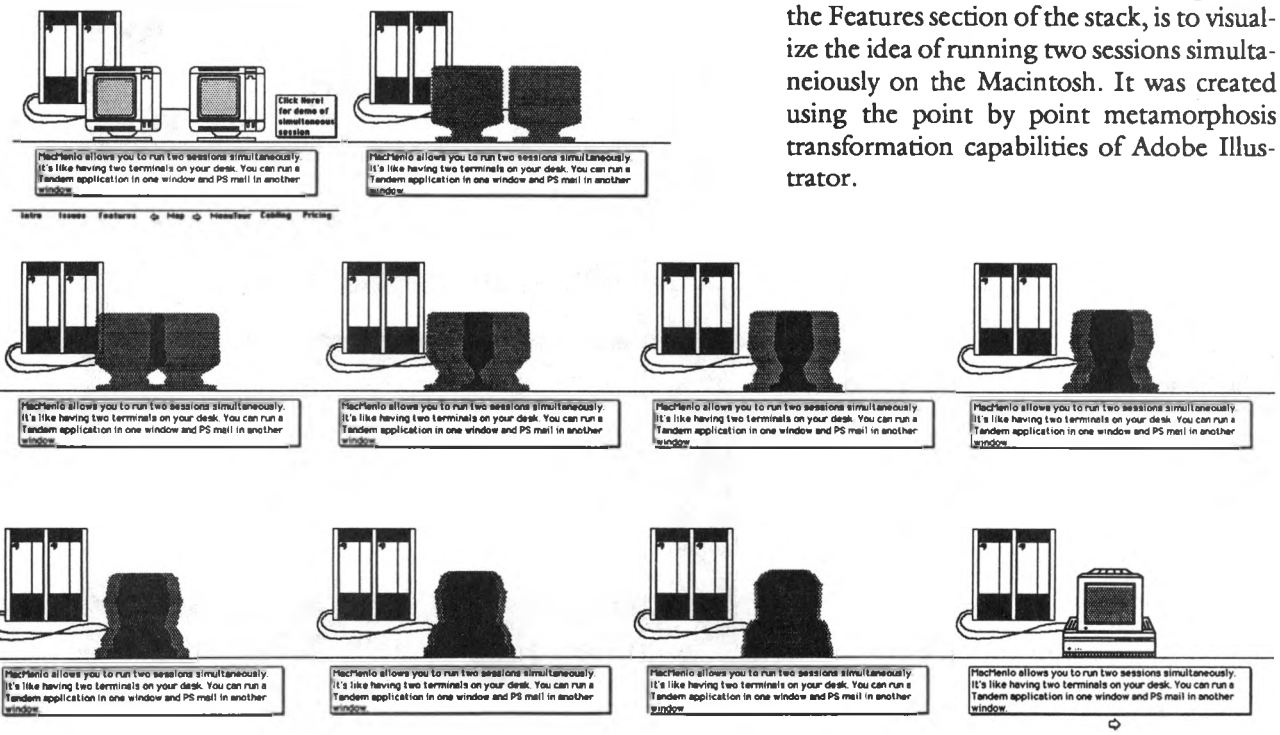
Tandem Terminal Emulation Software for the Mac

Intro Issues Features ⇦ Map ⇨ MenuTour Cabling Pricing

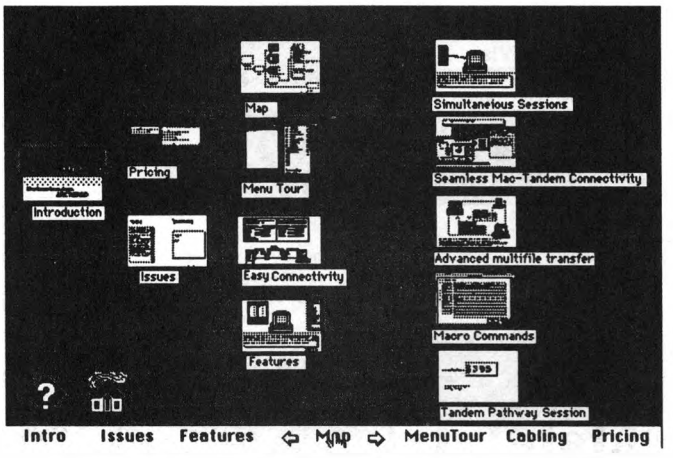

Issues
Issue 1. Suppose the Tandem is going down for repair, you want to pull your work off and work on it on your Mac.
Issue 2. You want to use the great word processors on the Mac for both writing code and documenting it.
Issue 3. The real estate on my desk is at a premium, I would like to have a smaller smarter terminal connected to the Tandem.
Issue 4. Integration with CASE.
Issue 5. Vertical consistency.
Issue 6. Maximizing productivity by quickly escending the learning curve.
Discussion
Startups can grow with MacMenlo.
MacMenlo is just the beginning of a long relationship you can grow into. It is the beginning of a path into a rich Tandem development environment supported at every step by our Applications enabling technologies.
Click here for Testimonial.
Intro Issues Features ⇦ Map ⇨ MenuTour Cabling Pricing

Ann Collins NeXT Computers
"For NeXT, Menlo products have been very dependable, very easy to use, and have required very little support on the part of the Information Systems staff. We're so pleased with them that we are actually encouraging the third parties that we are working with for new application development specific to NeXT to become familiar with the Menlo products and try and incorporate as many of them as possible into the development work they are doing for us."
Intro Issues Features ⇦ Map ⇨ MenuTour Cabling Pricing

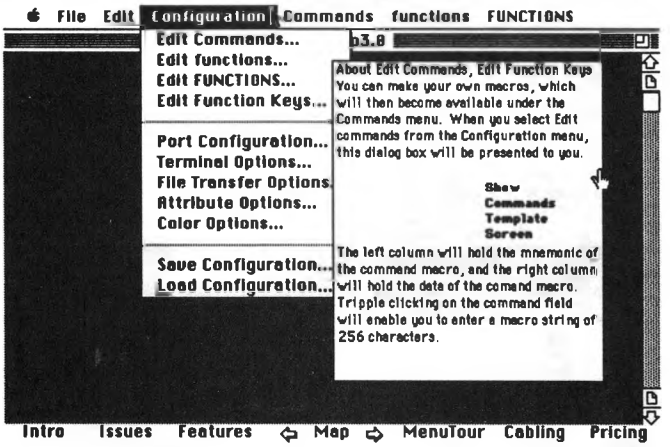
The animated sequence following, from the Features section of the stack, is to visualize the idea of running two sessions simultaneiously on the Macintosh. It was created using the point by point metamorphosis transformation capabilities of Adobe Illustrator.


Click Here! for demo of simultaneous session
MacMenlo allows you to run two sessions simultaneously. It's like having two terminals on your desk. You can run a Tandem application in one window and PS mail in another window.

In a marketing stack, after you dazzle the completely inexperienced user with some animation, you set him down in a place and turn navigation control over to him. Here a map gives the overall lay of the terrain. Note that the button bar on the bottom of the screen is always present too, so that all parts of the stack are simultaneously available.

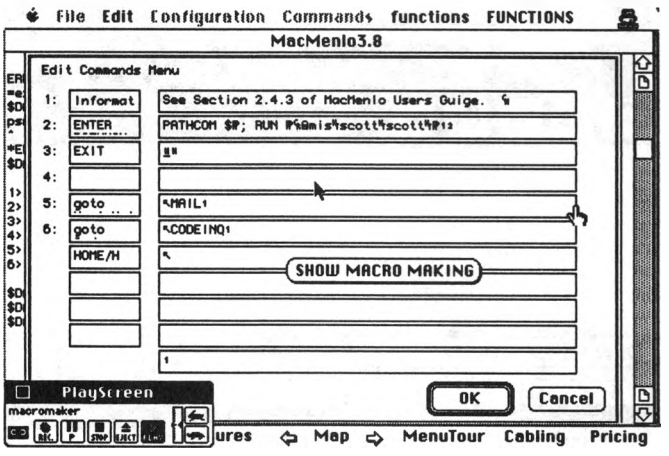


Menu Tour. Clicking on a menu item pops up a field with documentation about that item. Clicking leads to Edit Commands dialog box for building macros below left. I used the PlayScreen XCMD from Farallon to show a "video tape" (screen recording) of somone using this feature to build a complicated macro.

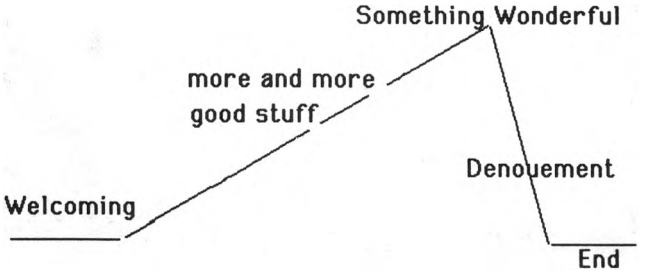

File Edit Configuration Commands functions FUNCTIONS
Edit Commands...
Edit functions...
Edit FUNCTIONS...
Edit Function Keys...
Port Configuration...
Terminal Options...
File Transfer Options...
Attribute Options...
Color Options...
Save Configuration...
Load Configuration...
About Edit Commands, Edit Function Keys
You can make your own macros, which will then become available under the Commands menu. When you select Edit commands from the Configuration menu, this dialog box will be presented to you.
Show
Commands
Template
Screen
The left column will hold the mnemonic of the command macro, and the right column will hold the data of the comand macro. Tripple clicking on the command field will eneble you to enter a macro string of 256 characters.
Intro Issues Features Map MenuTour Cabling Pricing

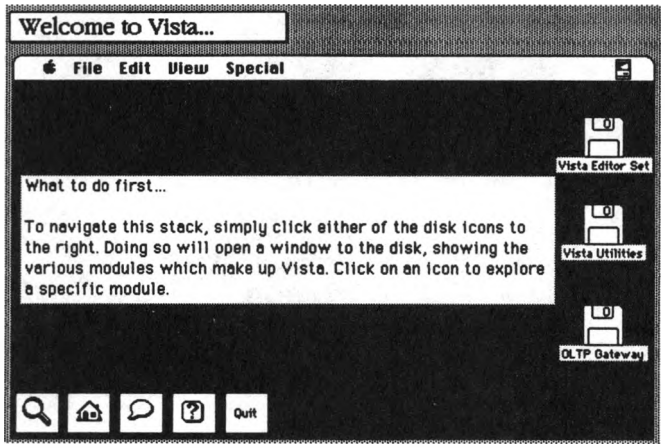
The **PlayScreen** is an awesome tool for documentation. The control panel for the PlayScreen is shown at lower left of the card at right. You can play back the recording you have made slowly or step thru it to actually reconstruct what an expert designer is doing in the complicated sequence of his actions.

You can play Compact Disk quality digitized voice recordings (SND resources) along with screen recorder and have a talking documentation.



We start to generalize that a piece of Hypermedia marketing literature has a kind of plot. Often the opening is an animation. Ideally the welcoming animation should help the user intuit or visualize an overall impression of what the material is about. The stack should delight with it's design, give away good scripts, use new techniques and technologies. It represents the company in this new media.



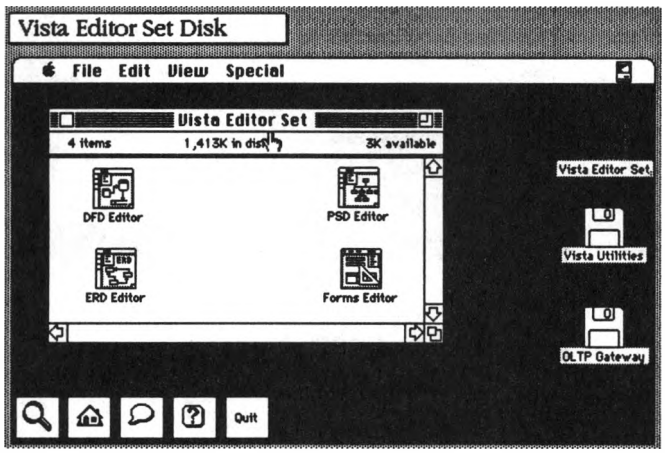

Welcome to Vista...
File Edit View Special
Vista Editor Set
What to do first...
To navigate this stack, simply click either of the disk icons to the right. Doing so will open a window to the disk, showing the various modules which make up Vista. Click on an icon to explore a specific module.
Vista Utilities
OLTP Gateway
Quit

Vista CASE Stack

This Stack for Menlo Business systems demonstrated the Vista CASE suite. It's opening animation gave a visualization animation of the products in the suite —the DFD, PSD, ERD, Forms Editor, Data Dictionary and how they all worked together The stack then left the user at a familiar Macintosh desktop —shown at left. After the opening welcome, when you set the user down to work with the stack, he should be able to get help immediatly. Pop up Help field only occurs the first time you come to this desk top.

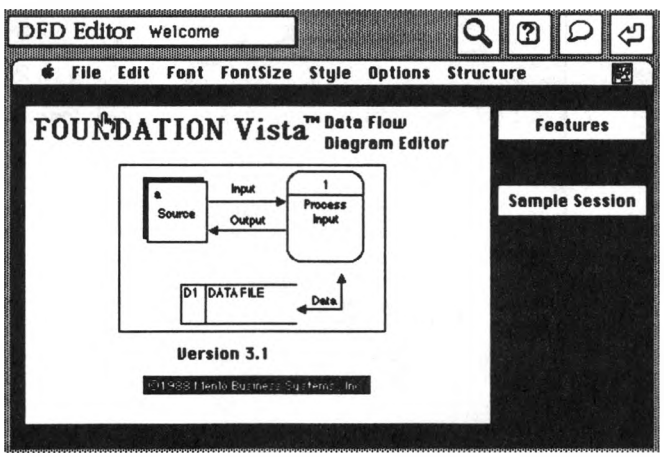
The desktop behaved like the familiar one, it had greying icons, the folder, multifinder icons etc. for familiar navigation.

There is also an complete navigation guide on the Help card linked by the question button, and returned by pop card.



Vista is a suite of applications and utilities. This stack is conveniently partitioned by assigning a background to each. The multifinder icon in the uper right corner of the desk top switches across these application/ backgrounds.

Pop and push card is used to navigate withing a background and between a background and the Main desktop.



This stack had a menutour of each pull down menu for each of the modules in the suite.

The menubuttons at the top on the menubar are activated on mouseDown to give the feel of an actual menu.

Each button over a menu item makes two function calls,

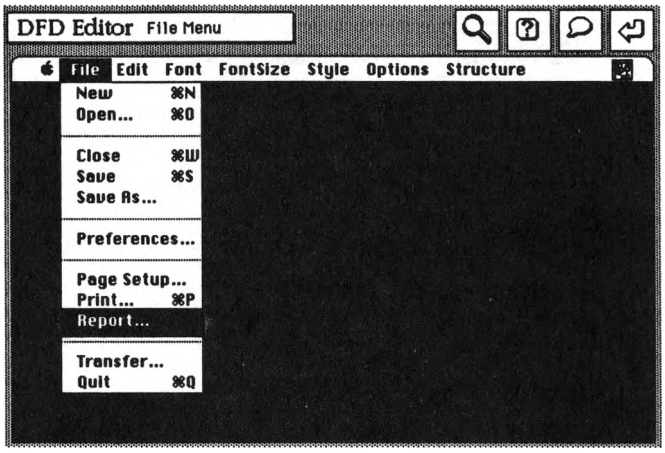
HideAllFields and

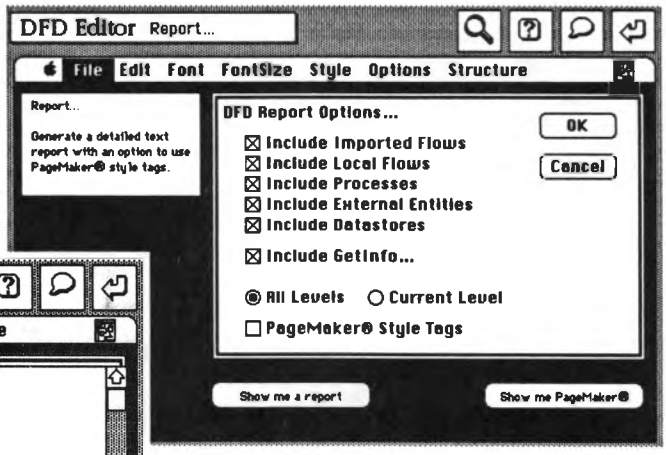
DissolveField whichField.

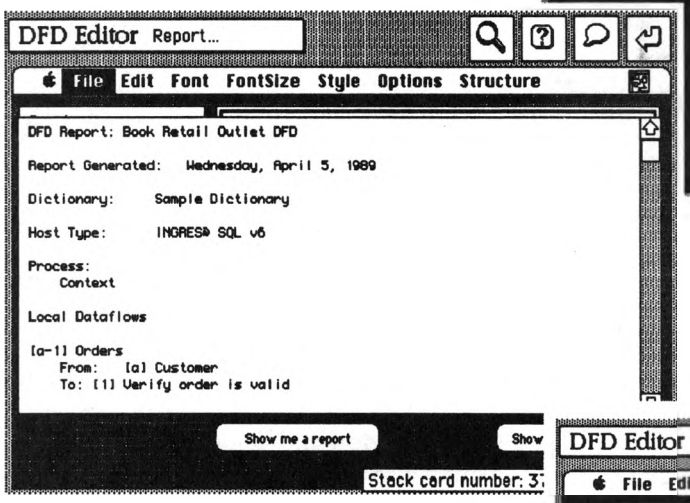
Handlers at the stack level take care of the disslove visual effect and showing the pop up field when the name or id of the field is passed from the card.

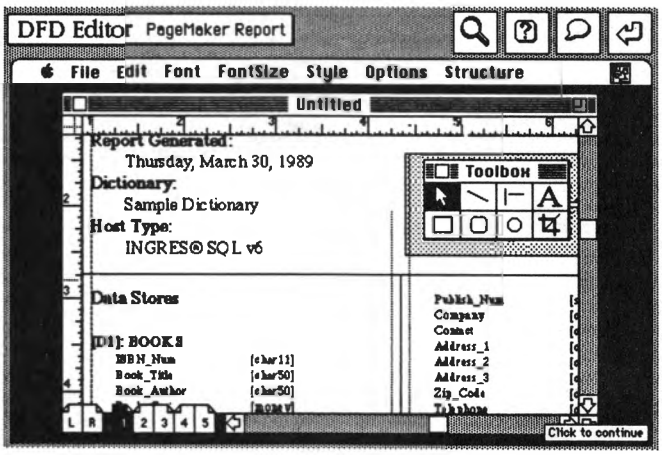
A typical example of the menutour: clicking **Report** brings up thestandard Report dialog at right. It shows all the entities that will occur in a DFD report. Clicking (**Show me a report**) shows a DFD report with formatting —below left.

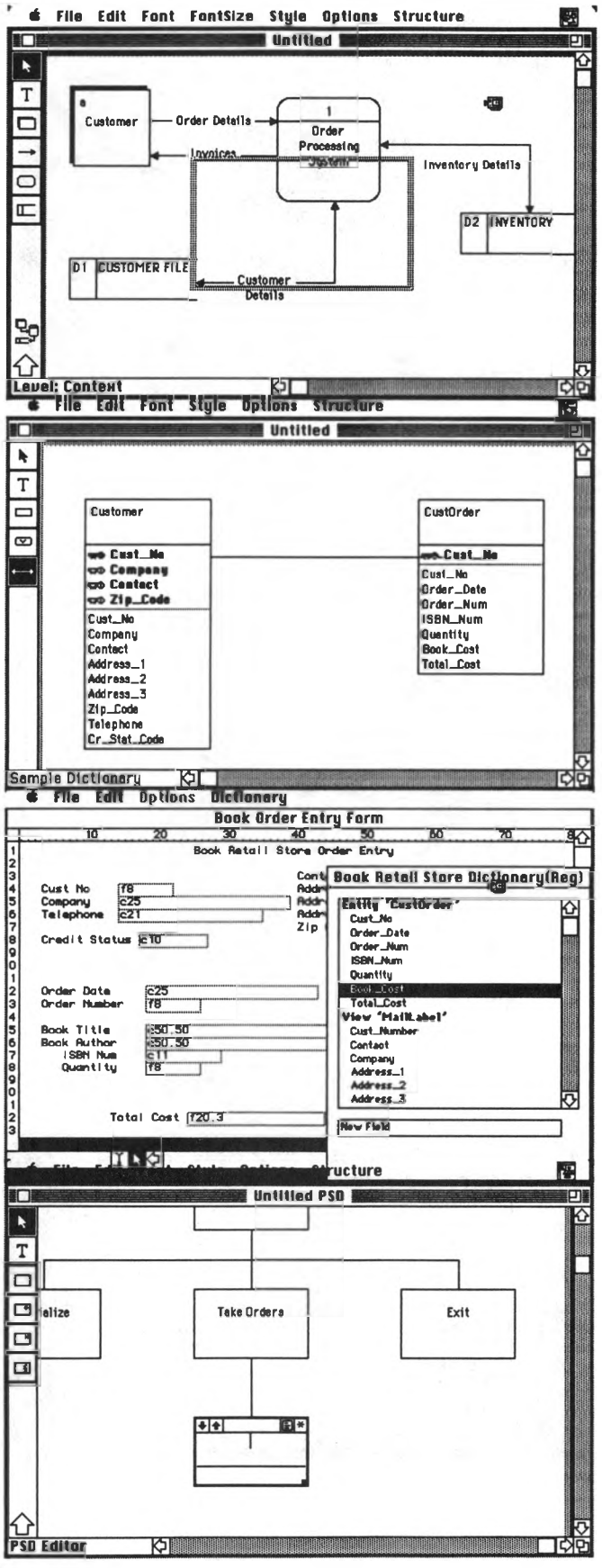
Vista CASE reports have their paragraphs marked with style tags. Clicking (**Show Me PageMaker**) shows the same material —here, moved into PageMaker for very beautiful reports.











Here are 4 of the screen recordings of a designer using the CASE tools from the Vista CASE stack. At left the **Data Flow Diagram Editor** Screen Recording.

Because I was able to visualize it with this graphical presentation, many things about programming became clearer to me as I applied the CASE methodology to HyperCard: Storing information in a variable,. passing a global variable to a subroutine, the genral flow of information in a program.CASE is necessary to document work.

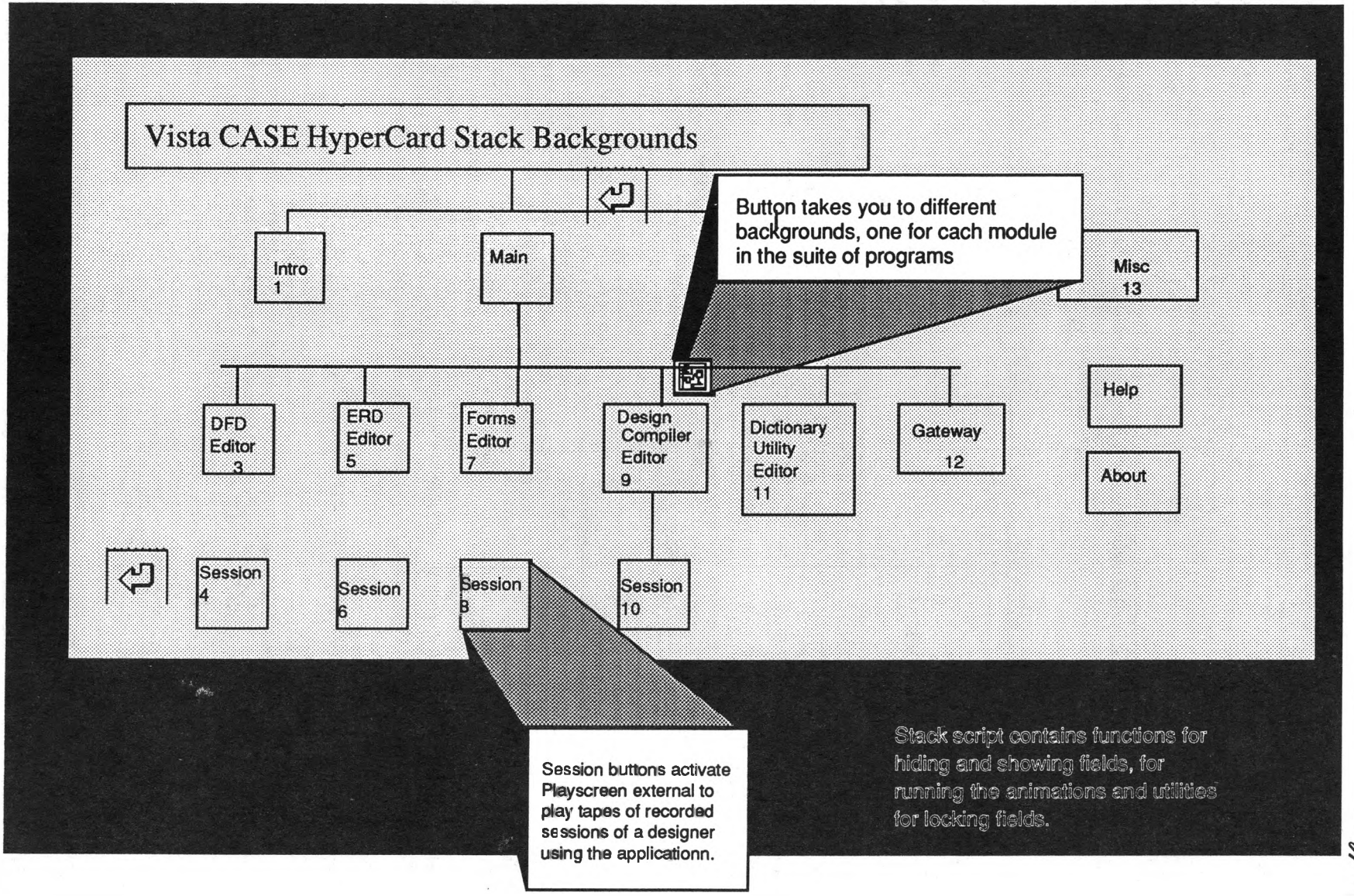
At left the **Entity Relationship Diagram Editor** checks the consistency among relationships in a program, is the best way to trim it down. The term normalizationmeans finding this minimal set of relationships amongthe data elements of a system. All the CASE editors all lead into a central data dictionary available to each editor, necessary for a big project.

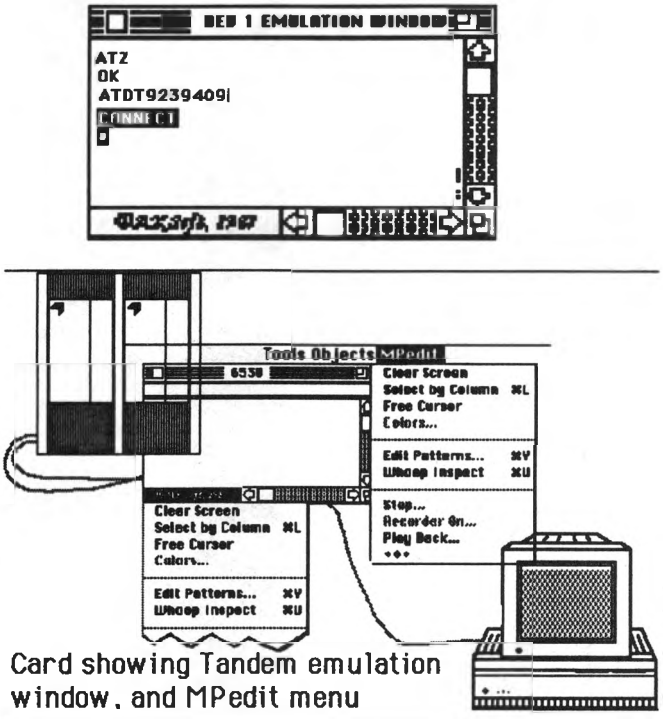
This methodology starts with the objects of thought and maps them into software. CASE lends itself well well to the Object-Oriented environment of HyperCard.

The **Forms Designer** at left shows bringing up the Data Dictionary which is made from Data Flow Diagrams, Entity Relationships diagrams and Program Structure Diagrams. This central dictionary is brought up in a window and fields for getting information into these vairable are just picked up and droped into the interface. Elegant.

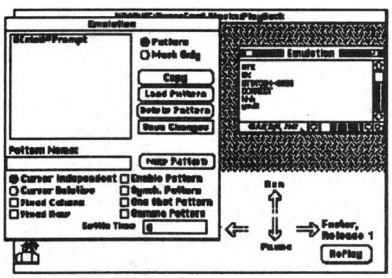
The Program Structure Diagram editor is good for displaying hierarchies.

I used it to describe the Vista Case stack. I also used Cricket Draw, to have shading and as an attempt to give, in one gestalt, the HyperCard hierarchy of this stack, as though you could look through card, to background, to stack.

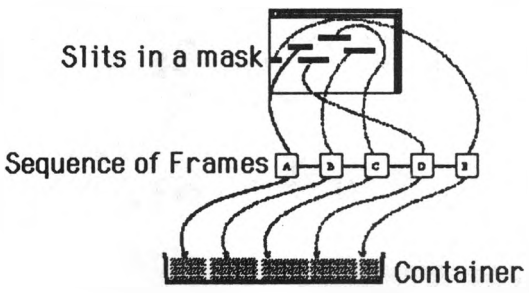

Vista CASE HyperCard Stack Backgrounds
Button takes you to different backgrounds, one for cach module in the suite of programs
Intro 1
Main
Misc 13
DFD Editor 3
ERD Editor 5
Forms Editor 7
Design Compiler Editor 9
Dictionary Utility Editor 11
Gateway 12
Help
About
Session 4
Session 6
Session 8
Session 10
Session buttons activate Playscreen external to play tapes of recorded sessions of a designer using the applicationn.
Stack script contains functions for hiding and showing fields, for running the animations and utilities for locking fields.



Card showing Tandem emulation window, and MPedit menu



HyperCard showing Emulation window, Patern Editor and playback controls.



Sequence of frames maps slits into containers

Applications Interface Development

My next contract was with Tandem to write a manual for the Lighthouse development envirnoment. Lighthouse is a set of XCMDs that uses HyperCard as a software bus to ferry messages back and forth to FITOS (Friendly Interface to On-line System), an application running parallel to HyperCard providing connectivity to a mainframe thru the emulation window.

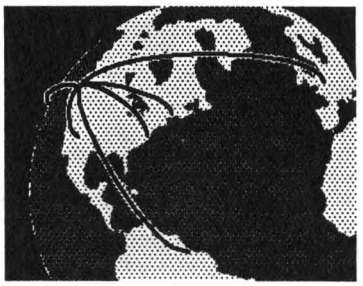
The emulation window is hidden in the final interface, the developer uses it to define patterns and masks to trap for information in the window. The functionality of the development envirnoment is accessed by a pull down menu, the **MPedit** menu (Masks and Pattern Edit)added to the right beside the **Objects** menu in Hypercard. It is also attached to the windoid for working on the standard Mac screen.

To make an AIM (Application Interface Module) you create a device which invokes a WHOOP (Watch HOst On-line Patterns). The device is a kind of agent, which captures Patterns (character strings) through masks which contain slits or areas on the emulation screen to look through for Patterns. At left shows an Emulation window remotely connected through modem dial up and an Editing dialog box. The arrows on this card control the playback of the Recorder. (Which records sessions with the mainframe that are later used to develop AIMs).

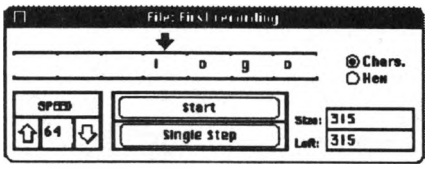
The picture at left shows the concept of mapping a sequence of slits in a mask into a HyperCard container.

The Editor for doing that is in the picture at right.

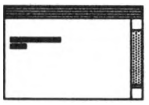
Example: Suppose a hotel chain with branches all over the world. To prebook a guest in another hotel in another city you need to know the occupancy there. A user just clicks on the world map, then the hotel name, and they would be accessing the company mainframe for on-line occupancy, billing, and reservation information. The user only need point and click.



The development environment has a session recorder. The control is shown left. This is not the same as the ***Screen Recorder*** from Farallon, but it records an interaction with a host computer thru dial up. The developer uses it to capture all the interactions he needs and then later develops off-line, designing the masks and patterns he will need to trap for information to later present through a visual metaphore in HyperCard.

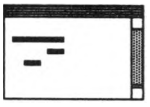


The screens at right show slits in a mask. The WHOOP (Watch HOst On-line Patterns) looks for patterns in these slits.



A mask with two slits

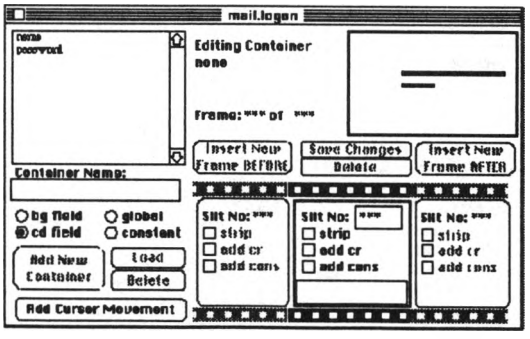
A mask with three slits

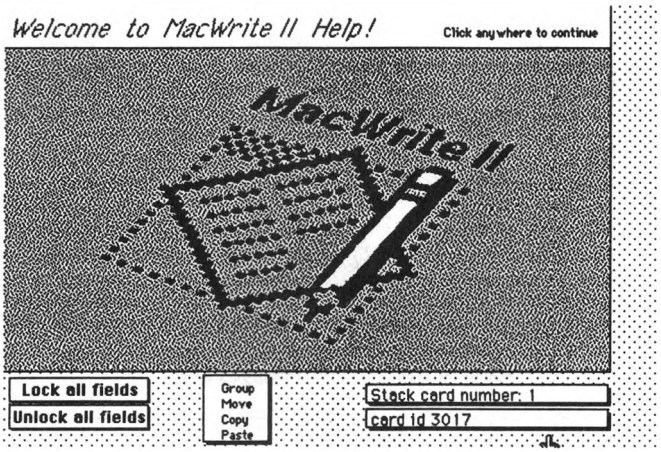


A mask with 11 slits (8 verticle)

Dialog box for mapping slits into a container. In the upper left corner is a scrolling field withthe masks' names.

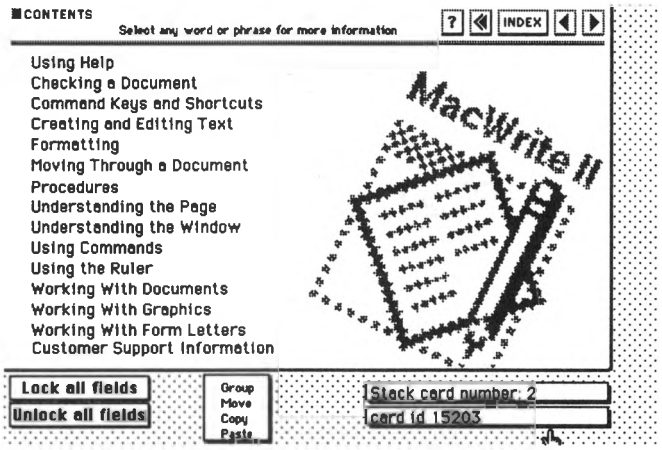
The upper right corner of the dialog box shows a miniature picture of the chosen mask. Using the cursor you pick up slits here and map them into frames. The Frames look like the film below, as they are sequenced into a HyperCard container.





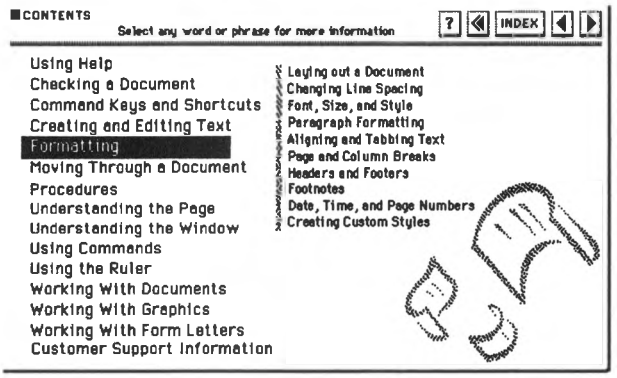
MacWrite II Help Stack

As a contract HyperCard Developer for Claris, our job was to upgrade the MacWrite II Help. Claris was the first to use HyperCard for on-line help. The HyperCard Help stack is hooked into the MacWrite II application with HyperEngine, which gives the browsing functionality of HyperCard by inserting 41k of code into the application's source code.

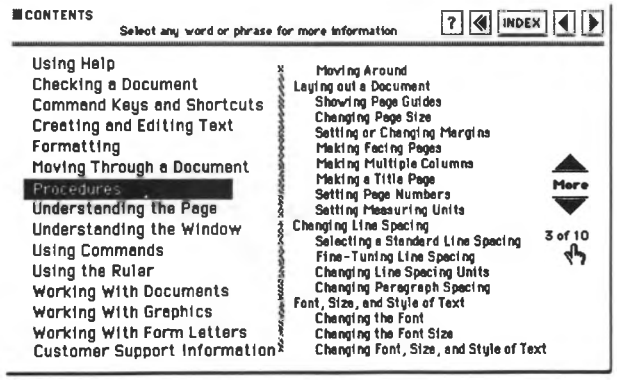


The Claris team gave us the designs and specifications. We came up with the content.

The area to work in is smaller than the size of a card. Thus the on-line help"floats" above the word processing application.The buttons and fields at the bottom activate utilities and tracking fields in this development stack. They are not visible in the final product.



The Table of Contents shows the basic concepts of using a Macintosh word processor. They each will be their own background. Their subsequent dialogs also have their background.

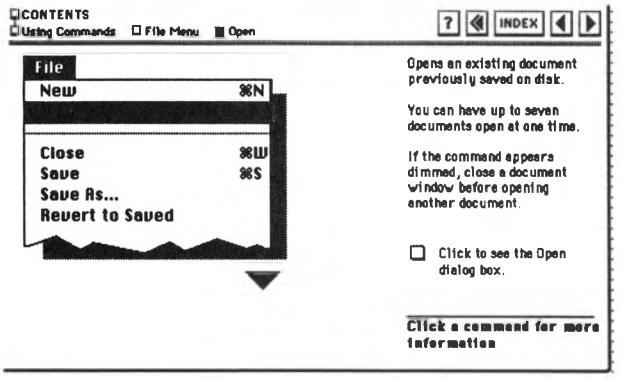


In addition to the Basic Macintosh word processing concepts we developed a catalog of procedures which linked into the concepts as they occur in a step by step procedure. Thus we were able to access the information three ways.

1. by the concept

2. by a procedure
3. by the linked index

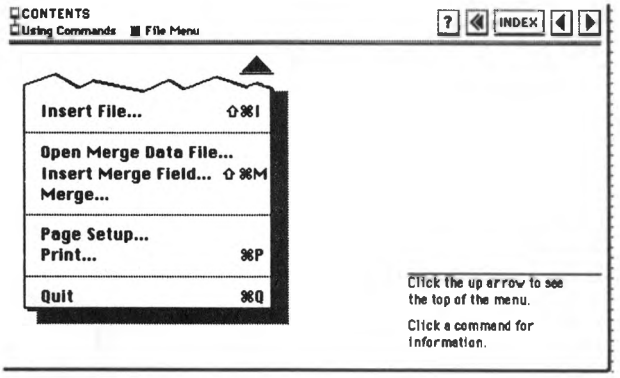
The menutour went from card to card with a hilited button indicating progress Square buttons link to the subsequent dialog boxes. Each dialog box had to have it's own background because you had to abe able to click on everything and have it go to a card, show hilited what you had clicked and give an explaination on it. Shown below are two cards of the Open Dialog background.


CONTENTS
Using Commands
File Menu
Open
INDEX
File
New ⌘N
Close ⌘W
Save ⌘S
Save As...
Revert to Saved
Opens an existing document previously saved on disk.
You can have up to seven documents open at one time.
If the command appears dimmed, close a document window before opening another document.
Click to see the Open dialog box.
Click a command for more information

Menues had to be halved because of the smaller working area.

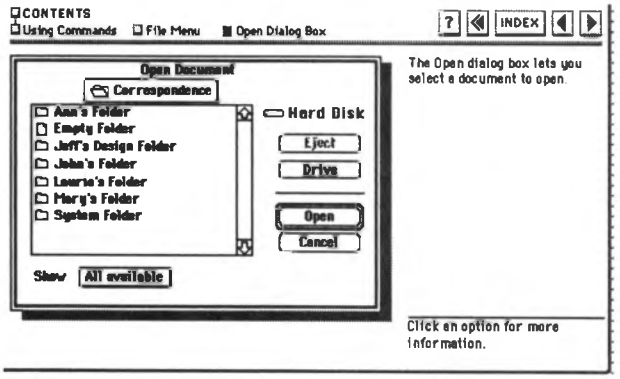
Navigation on top of the card is slim for the small area. Shaded boxes are the leaves of the hierarchical branch. It is possible to navigate back to the unshaded boxes.

This menutour material is under the concept of **Using Commands**. It is also linked as part of some procedure.



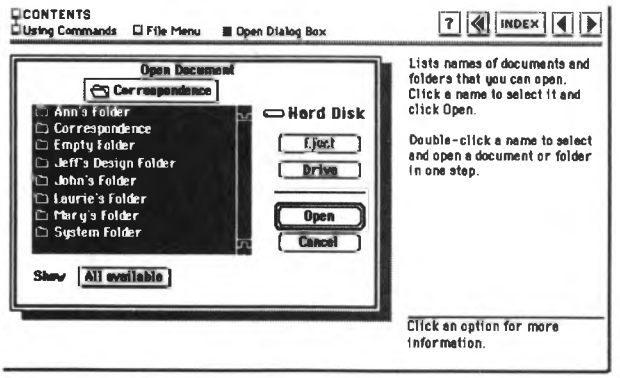
The Open Dialog box is typical of the dialog backgrounds. Everything had to be a click temptation, and responsive so the user wouldn't be frustrated.

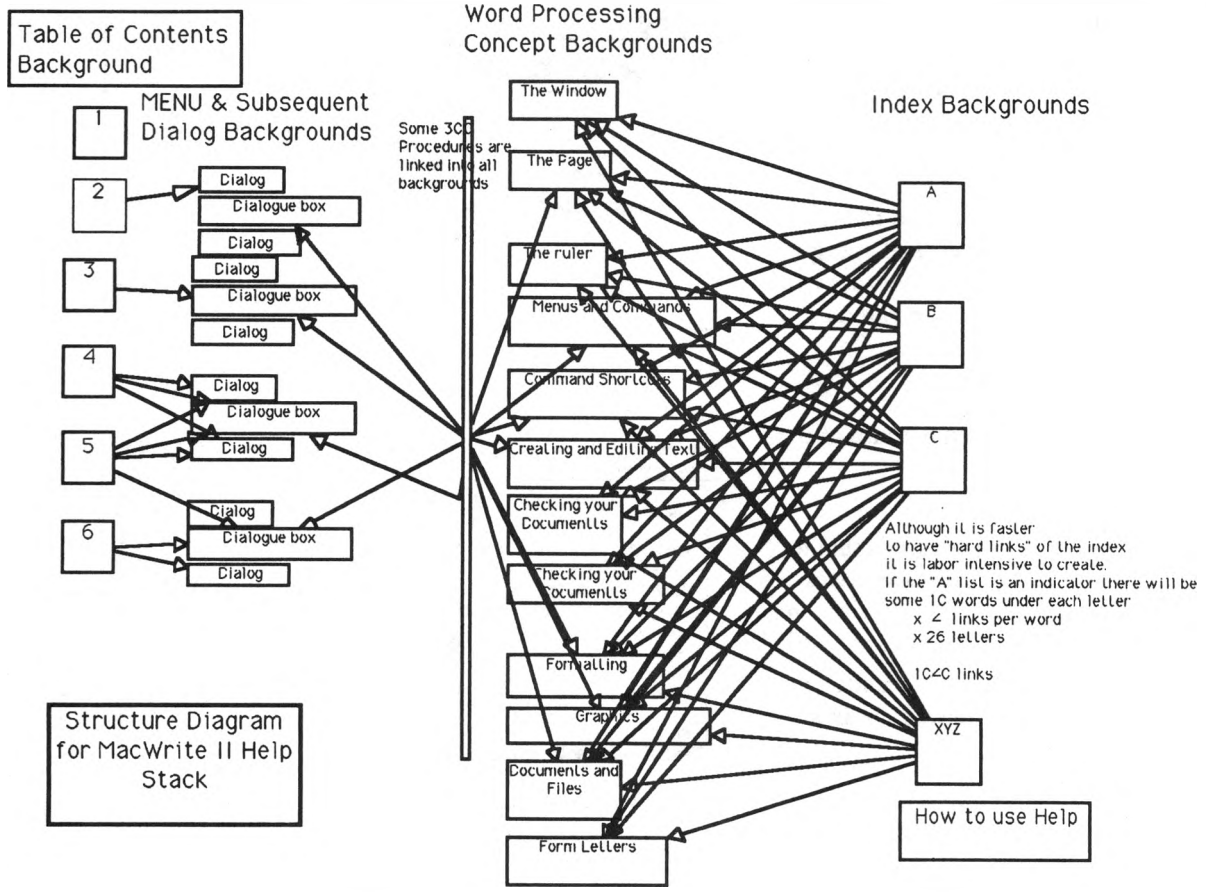
The dialog boxes are all uniformly reduced 82%. The lettering is reconstructed with a 10pt Chicago font.



Writers working with Claris or Apple use a specialized language with rigerous conventions especially for terms like "select" and "click".

On screen writing has to be trimmed down even further. This would be good for scripting dialog for doing voice documentation to keep the SND resources as short and effective as possible.





Envoi

This article traces my own growth from fledgling generalizer of Desk Top Publishing concepts into the new media, progressing into more central control over the look and functionality of my stacks by developing facility with programming thru the use of CASE tools and the marvelous methodologies they embody. It goes into using HyperCard for large documentation projects and for developing interfaces to mainframe applications

The development of Applications Interface Modules with external commands is an exciting direction. It helps give a facelift to mainframe applications, and build SQL enquiries. I hope we see these development tools become available for a popular market.

The use of HyperCard for marketing is cost effective. But it is as a training and documentation tool that it really becomes fabulous. The idea of hypertext should be used as a conceptual tool for all writing, it leads to greater completeness, closure and clarity. Indeed the idea of writing for a screen by building up a field from background databases leads to new ways of writing. I am looking forward to making the process more automated by developing utilities to strip and insert text, stretch fields, index, print parts, design linking. Who knows, much of this might be in HyperCard 2.0.

It is fascinating to work with a team of designers and writers and programmers to develop the content for CBT. I want to learn animation and get better at screen design and do full motion documentation on compact disk. I am also looking forward to when Hypermedia and artificial intelligence can exploit the technical writer's protocol for cogently presting expertise.

CAD

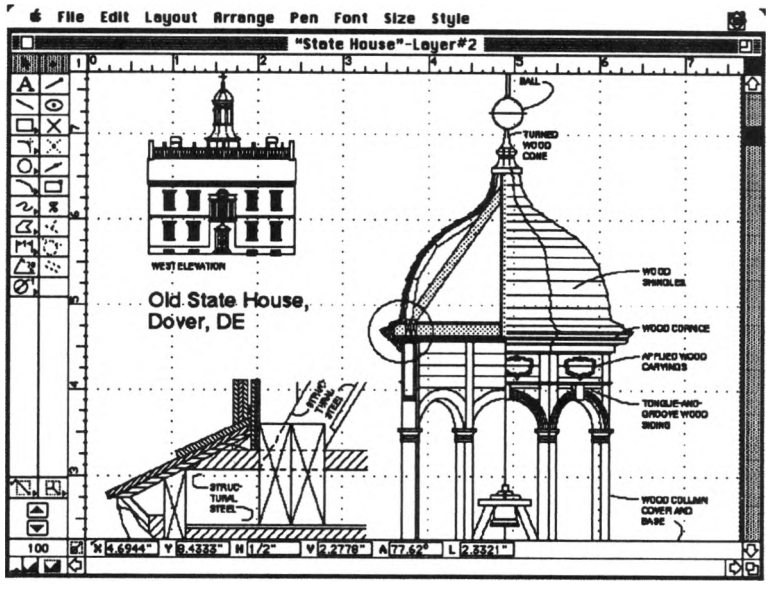
(Computer Aided Design)

CAD on the Mac, Part Two —The Bottom Line

by Margot Cantwell and Kevin Matthews

CAD on the Mac, Part One— published in BMUG NewsLetter, Winter/Spring, 1989, page 59

The BMUG CAD SIG has been looking at CAD software for about eight months now since the publishing of *CAD on the Mac, Part One*. While the field has developed in this time, as the computer industry goes, it has remained surprisingly similar. The bottom line is:

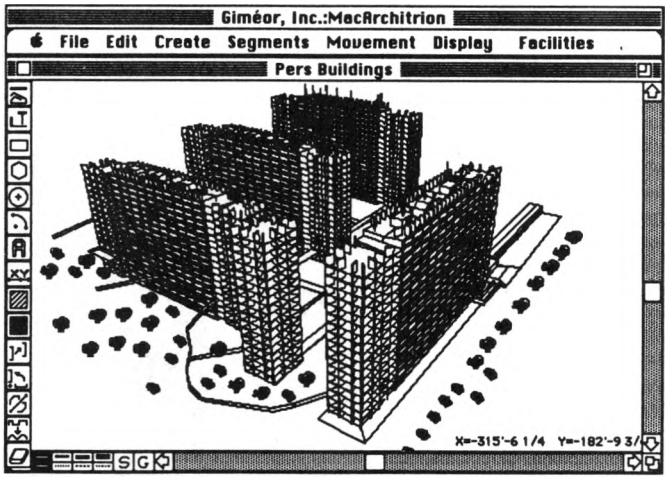


Claris CAD *drawing.*

1. Try *Claris CAD*—you'll like it (or crawl away somewhere with your old *BYTEs*).
2. *MiniCad+* is an interesting second possibility, generating lasting loyalty among users. Right now it has the best simple spreadsheet connection.
3. Forget *AutoCAD.*
4. *Mac Architrion* is a good 3D program; really useable for architecture.
5. The traditional-CAD/Macintosh-CAD dichotomy still exists, but Macs are closing in from several directions, and also winning interesting new converts such as *MacMicroStation* from Intergraph.

Perhaps the most common question we are asked is "What is the best CAD software for the Macintosh?—I don't care how much it costs." We commend those who recognize it is most cost effective in the long run to invest in good software. Ironically, in the world of Macintosh CAD, the most expensive is probably not the best.

Don't even consider *AutoCAD.* We couldn't even find a SIG Group Member willing to review it after devoting a meeting to its demonstration. If you're comfortable with *AutoCAD* in the DOS environment,

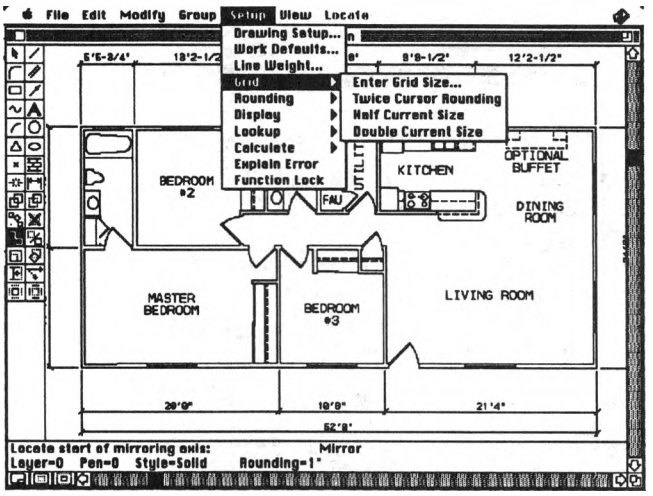


Perspective view of a Mac Architrion *3D model.*

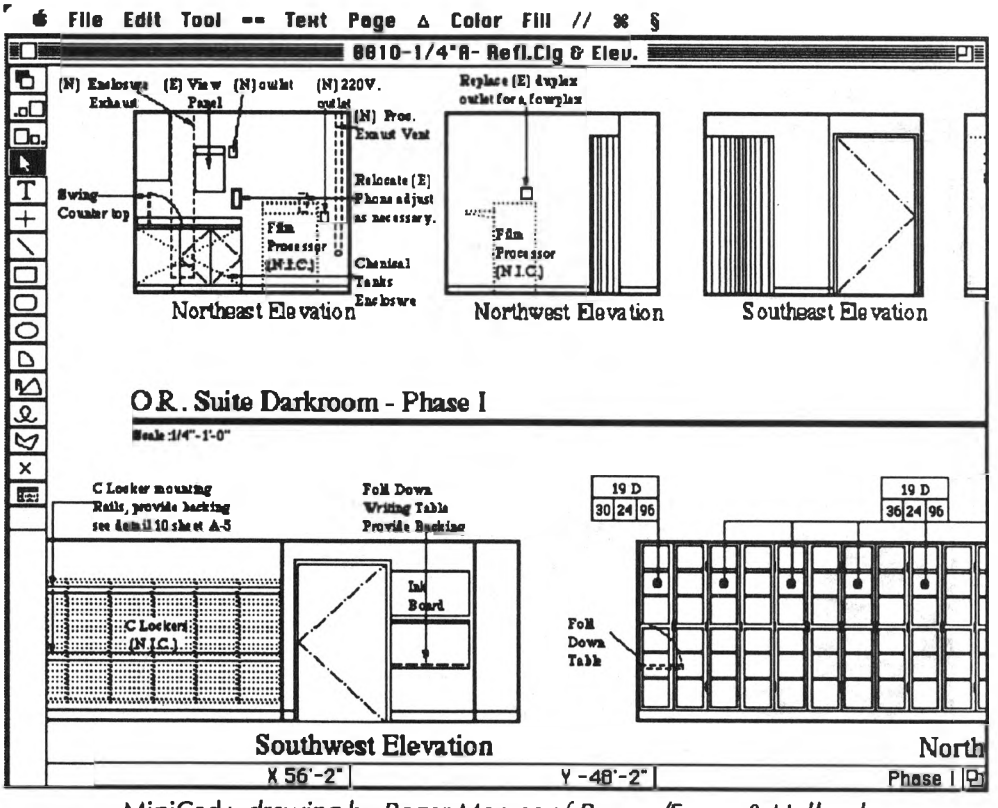
you'll recognize and appreciate it on the Macintosh (assuming you have the 5 megabytes required to open it!). However, even former DOS-users should seriously consider what will be missed by not using a Mac-style program. While *AutoCAD* is widely used in industry for drafting, very, very few people use it as a thinking/drawing tool. Its appearance on the Macintosh has not changed that philosophy.

CAD SIG members reviewed *Pegasys I*, a UNIX transplant and *VersaCAD*, a DOS transplant. Both programs are of the same general type as *AutoCAD*, and both reviewers switched to *Claris CAD* by the end of the evaluation. While *Pegasys* and *VersaCAD* provide CAD-level accurate databases and tools "out the wazoo," the implementation of these tools is "frustrating, arcane, stupid, unusable" (to quote our reviewers). The basic approach is a "tool for everything," but each tool has only one very limited use...and try to remember it!!! The result is the implementation of a demanding command line (called "user prompt"), ordering the user not only what to do, but also in what order. The creative mind soon despises a software program giving dictation. A more elegant solution would provide more general tools, such as a "gap" tool, which would gap anything you could select (as opposed to the tools: "gap arc," "gap line," "gap tangent," etc.). It's no wonder these programs do so well in the magazines: the work is all done for the reviewer! Along with the funky interface, these programs are also generally not able to produce Mac-quality graphics—no on-screen line widths, PostScript fonts, Mac fill patterns, etc.

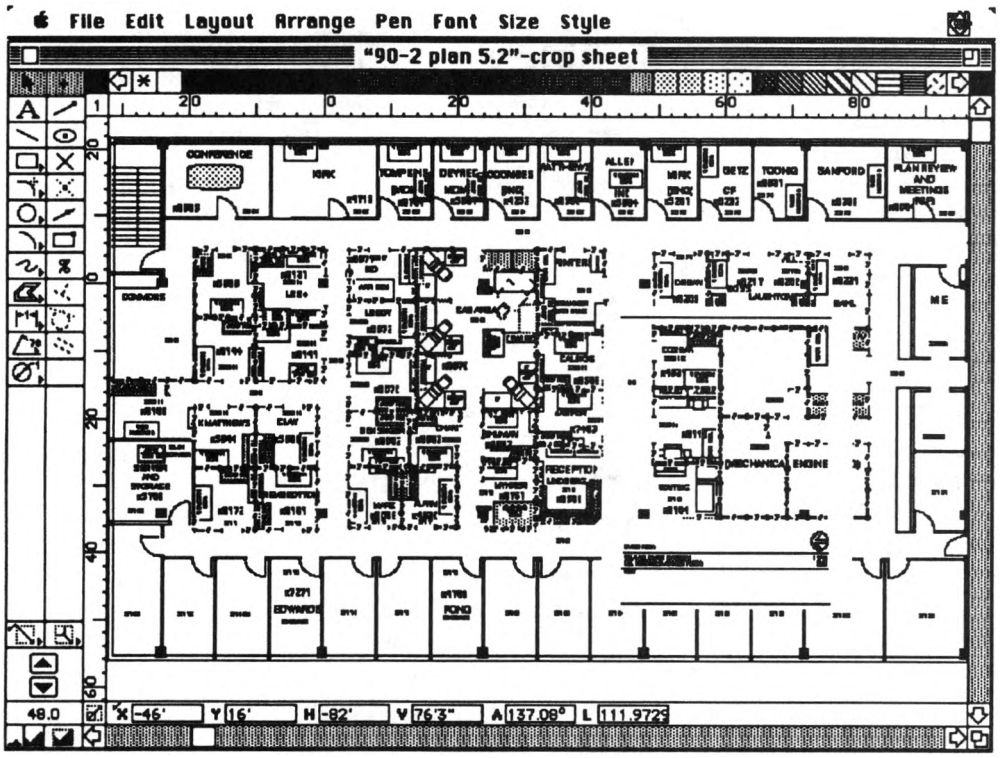
CAD SIG members are primarily using *Claris CAD* and *MiniCad+* for 2D drawing and drafting. If these don't have every feature you imagine you need, our advice is to purchase them anyway and continue to use your pencil for the missing functions. Our guess is that you will be surprised at the true ability of these packages. Either program is a sufficiently elegant graphic tool for precision sketches, diagrams, or drafting. In short, you can use them to design with, within the limits



Pegasys I *screen showing the* **Grid** *menu.*

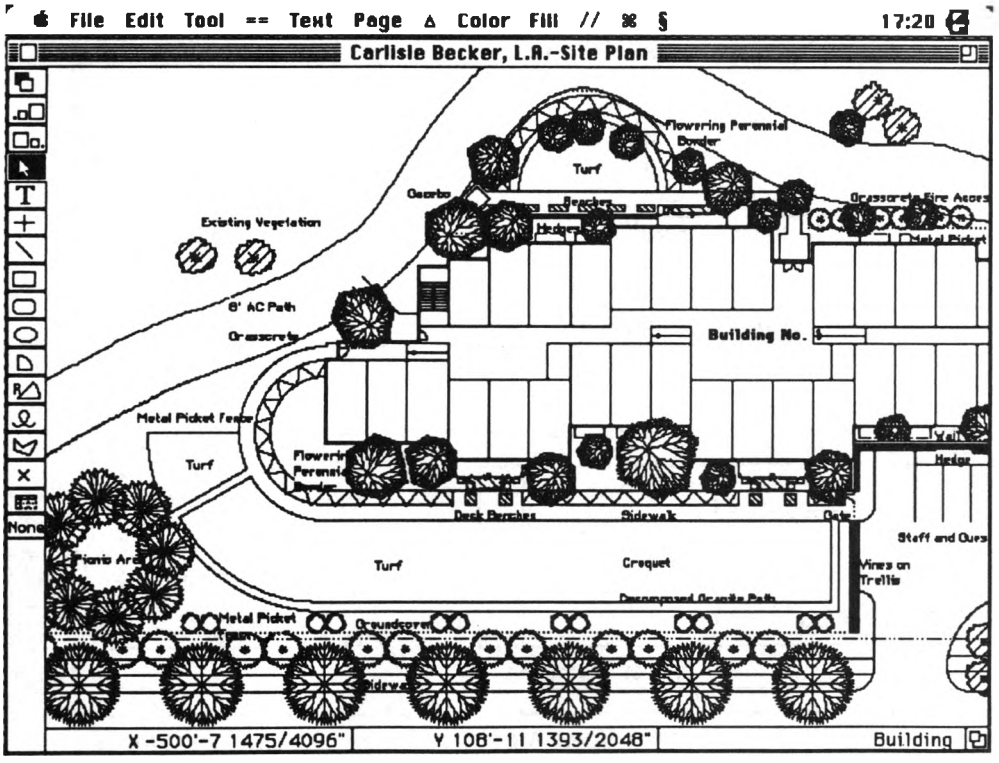


MiniCad+ *drawing by Roger Moraes of Brewer/Fraser & Holland.*



Claris CAD *drawing by Kevin Matthews for SCC.*

MiniCad+ *drawing by Margot Cantwell for Carlisle Becker, Landscape Architect.*



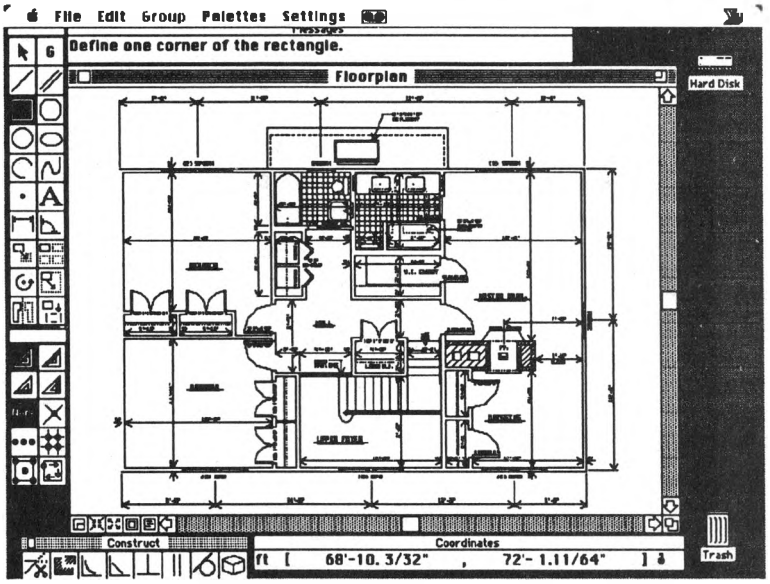
of two-dimensional work. This is actually a promise made an entire generation ago, and only now starting to happen for some of us who are giving up fond pencils for new Mac tools which are just as expressive, although sometimes in different ways, and much more powerful.

Claris CAD provides the essential features we were asking for eight months ago, when we wrote *CAD on the Mac, Part One*. These are a combination of the classic MacDraw drawing method with an accurate database and a tool palette to utilize it. In *Claris CAD* the classic drawing tool set is extended with positional modifiers and iconically selectable drawing "methods." The program is deceptively simple. In use, a tool icon is selected from a succinct tool palette, a method icon is chosen to adjust the drawing method if needed (e.g. circles drawn from center vs. edge to edge, etc.) and finally a positional modifier may be used to "snap" the object to an end-point, midpoint, etc. Like a good hand tool, the tools in *Claris CAD* are beautifully crafted and even after months of use you can still find new uses for them. Few computer tools have this depth. It is the user, not the programmer who figures

out how they interact. New combinations are always possible, in contrast to the traditional CAD programs where there may be over 100 routes, but you're always stuck on the beaten path laid out by the original programmers. Profound simplicity. Kevin is willing to stake his reputation on the statement: "*Claris CAD* is the best general purpose 2D CAD program on any computer at any price (period)."

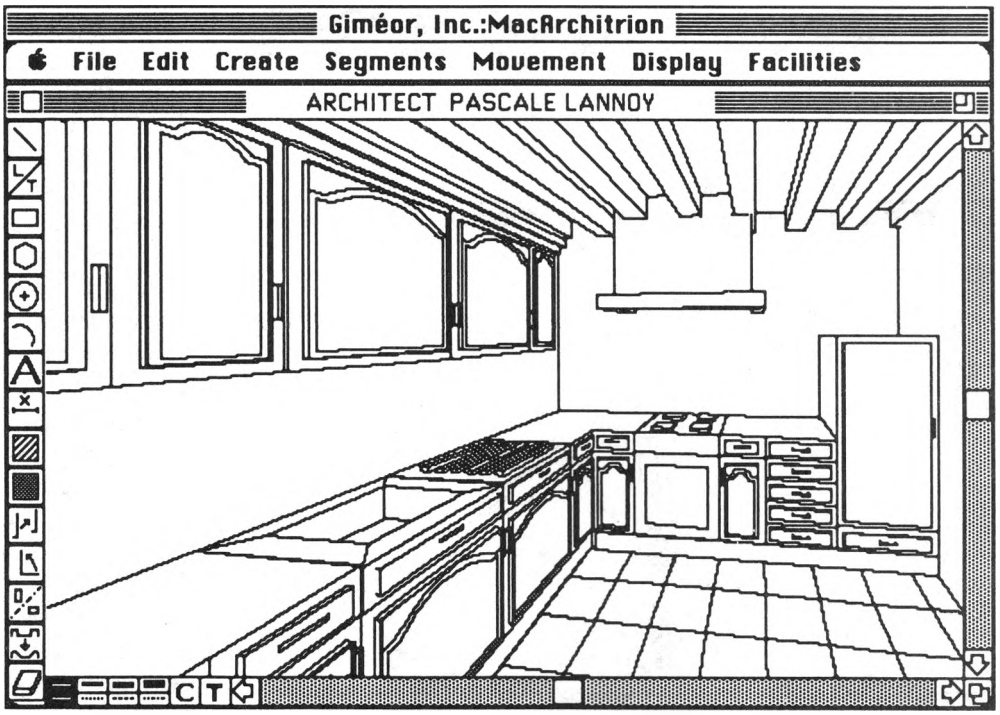
MiniCad+ is a second choice. Its users are very loyal and its interface is of the MacDraw ilk. The *MiniCad+* interface is not as strong or Mac-classic as the *Claris CAD* interface. *MiniCad+* seems to be a good drawing program with a CAD gloss. In this regard it is similar to Dreams (which we wouldn't include in the CAD category). Unlike Dreams, *MiniCad+* is not limited by a 16-bit integer database (see below). Positional modifiers are nonexistent, although *MiniCad+* does provide generic snap to objects, grids and locus (this is the CAD gloss). Again, recall the distinctions between CAD, drawing and paint programs (see **CAD** in the *Glossary of CAD Terms*). However, *MiniCad+* has a good collection of reasonable features, including the relatively unique built-in spreadsheet. If you are looking for a good drawing program with many individually nice features, a touch of CAD accuracy, a bit of 3D viewing, and especially a nice spreadsheet link, its a very good choice.

A 16-bit integer database does not provide sufficient resolution to always maintain dimensional accuracy. On the other hand, these databases match the resolution of the basic QuickDraw functions, making them quick, easy to program for developers, and easy on your RAM. *Claris CAD* and *MiniCad+*, for example, both store coordinate values in 32-bit long integer



VersaCAD *Screen.*

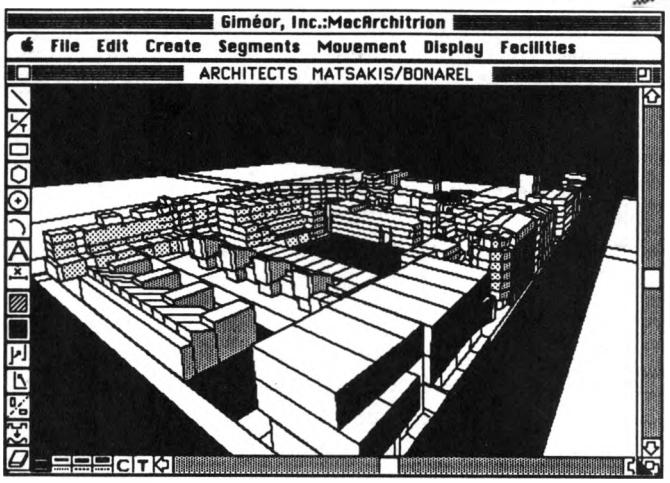
words (although in slightly different ways). This gives them the minimum dimensional resolution needed for serious CAD work, together with good speed on a variety of Macs. *VersaCAD* and some other programs use double-precision floating point data structures for coordinates. This provides the same ample precision as many Unix and VMS-based CAD applications, at the expense of



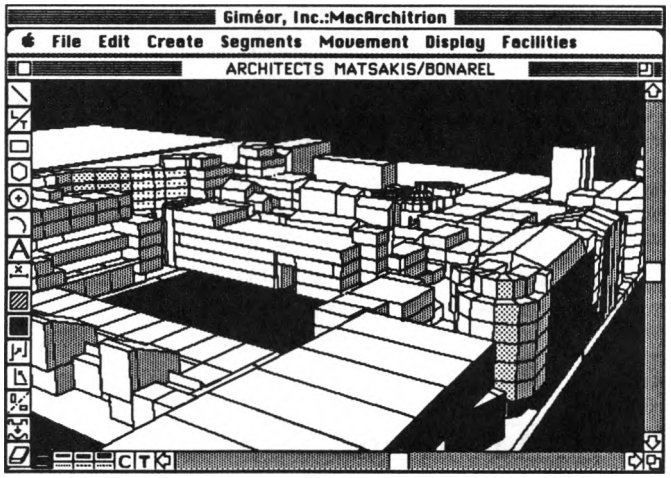
Interior perspective view of a Mac Architrion *3D model.*

noticeably sluggish performance. Also, the difficulty of combining floating point data and QuickDraw graphics routines may be partly responsible for the relatively awkward user interface of the *VersaCAD*-type programs.

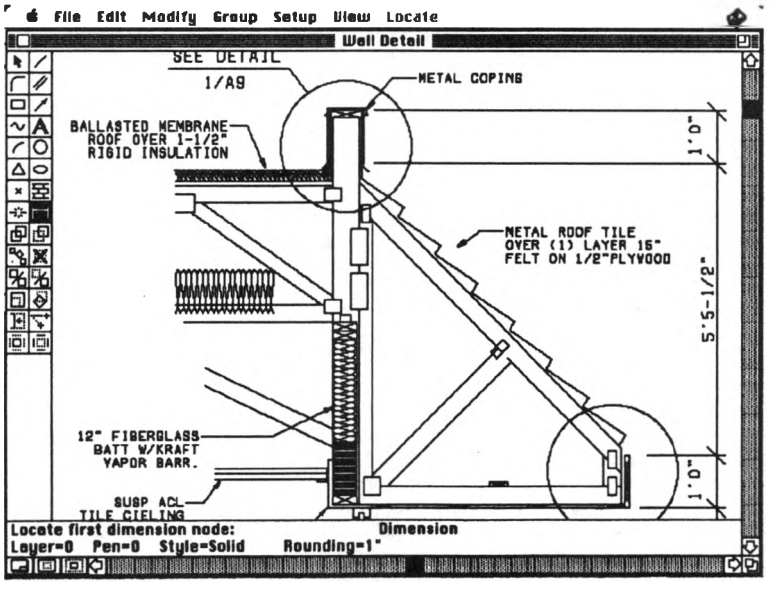
We often get asked about three-dimensional CAD. "Do I need 3D? Should I buy *VersaCAD* or *MiniCad+* because I want 3D?"



Two exterior perspective views of a Mac Architrion *3D model showing a project site.*



Pegasys I *drawing.*



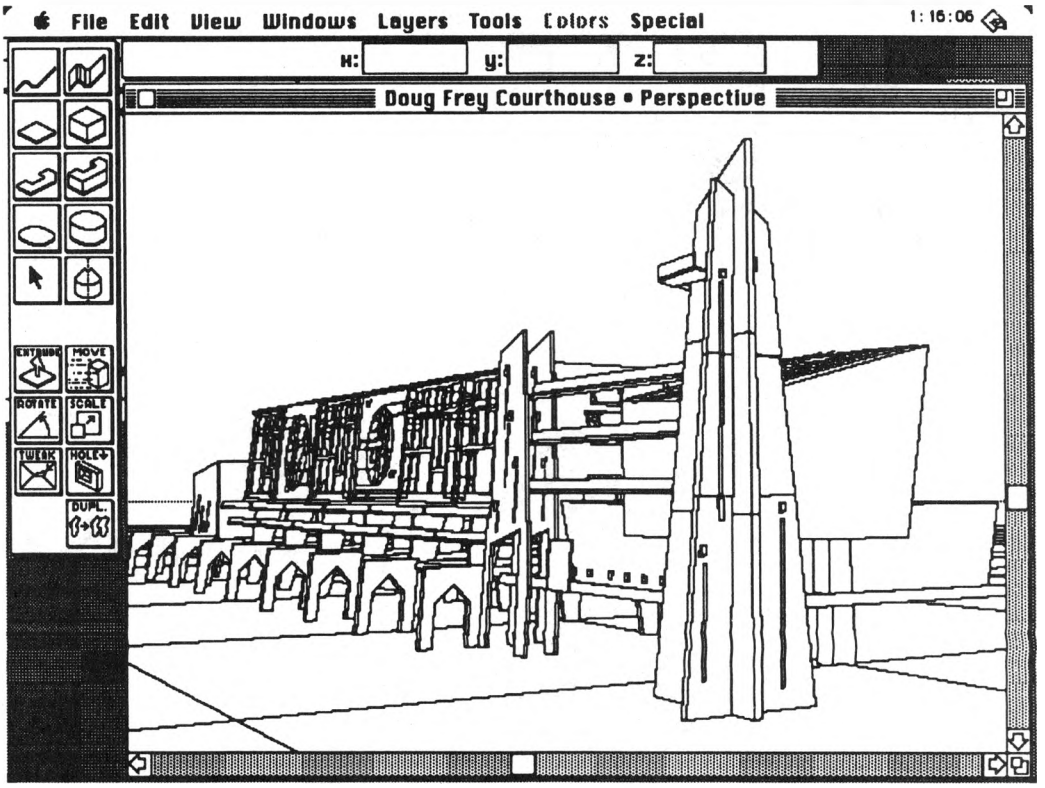
Most Macintosh CAD programs that purport to "have 3D," actually only have limited 3D viewing capabilities, without a true 3D modeling environment. This allows for some primitive visualization of simple models, but is essentially useless for design needs (buyers beware). The bottom line is that if you need 3D—buy a 3D program. At this time there is no one program that excels at both 2D and 3D.

There are several interesting 3D-only programs for the Macintosh. One category of three-dimensional software includes *Swivel3D*, *Super3D*, *MacPerspective*, etc. These programs provide fairly quick and easy to use modeling capabilities, but for intensive CAD use, they generally lack sufficient dimensional control. They are best understood as a new kind of illustration tool rather than as CAD applications. Many include wonderful textures, colors, CAD rotational abilities as well as links to HyperCard to create terrific animated sequences. They should be purchased and enjoyed for these uses.

Another class of Macintosh three-dimensional programs includes *ModelShop* and *DynaPerspective*. These are both better suited to modeling architectural forms, and are appropriate for visualization and presentation modeling of existing designs. They support a fairly large numbers of surfaces, color shaded renderings, and other such basic client wowing goodies. If you like to design primarily in 2D, these programs can

help you quickly put together nice 3D presentations of a project.

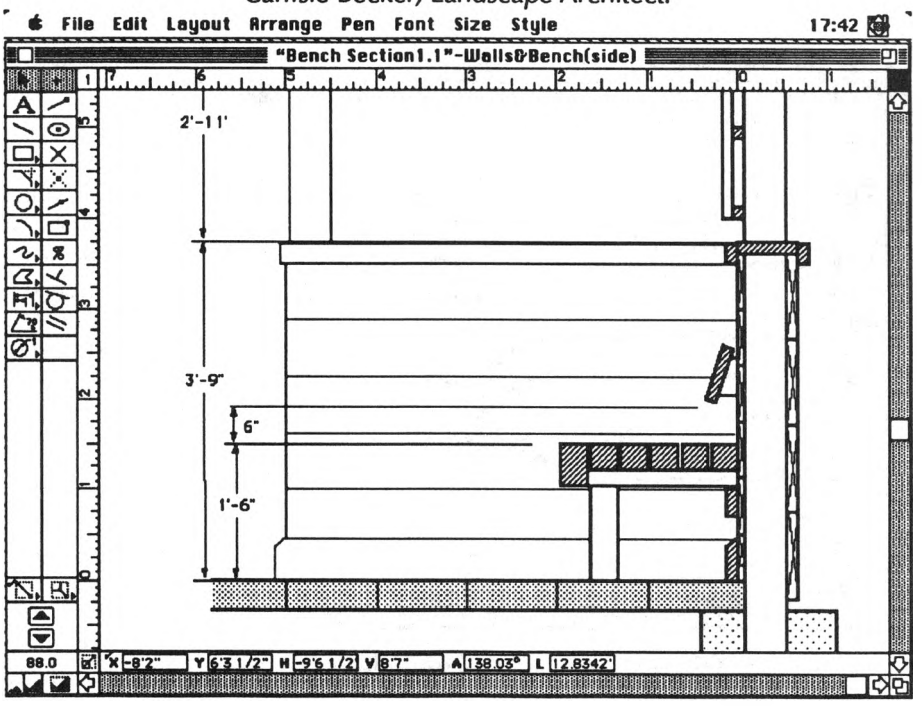
Mac Architrion and *ArchiCAD* are 3D-2D combination programs for architectural designers. While none of us has extensive experience with *ArchiCAD*, we are concerned that its highly automatic environment may prove to be too restrictive for real design work. This might be a perfect program for quickly putting together drawings of fairly straight forward structures. However, if you wanted to put a door in sideways, you'd probably have to rewrite its definition in source code.

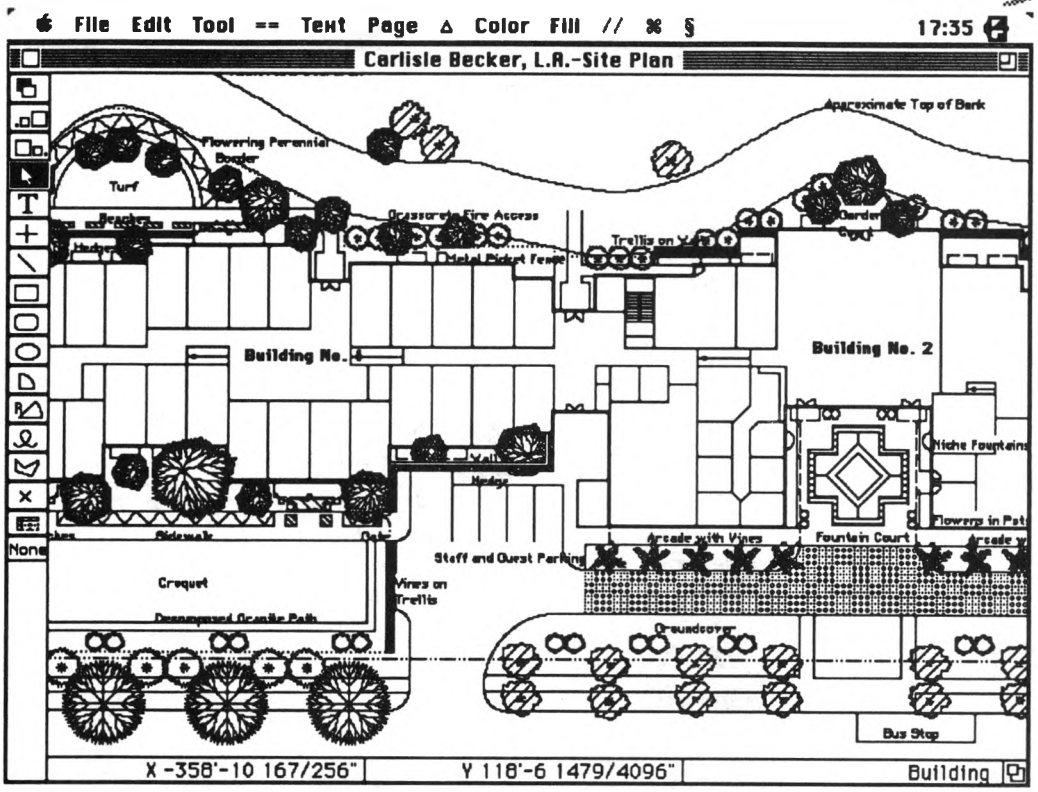


ModelShop *drawing by Doug Frey of Brewer/Fraser & Holland.*

Mac Architrion was reviewed. It stands out from other 3D programs because it is truly based on the concept of designing in three dimensions. One draws with blocks, representing masses at first and then slab elements, framing members, etc. as the design develops. The tool set lets you repeat, move and change the shape of these blocks singly or in groups. So a complex building model can be built quickly, but more importantly, can be modified in an ongoing way as a primary design activity. The bottom line is that this program is unique—it lets you constantly think and model in 3D. The recently released *Mac Architrion II* produces shaded colored renderings with shadow casting and supports an ASCII interface for external procedural creation of complex shapes. The

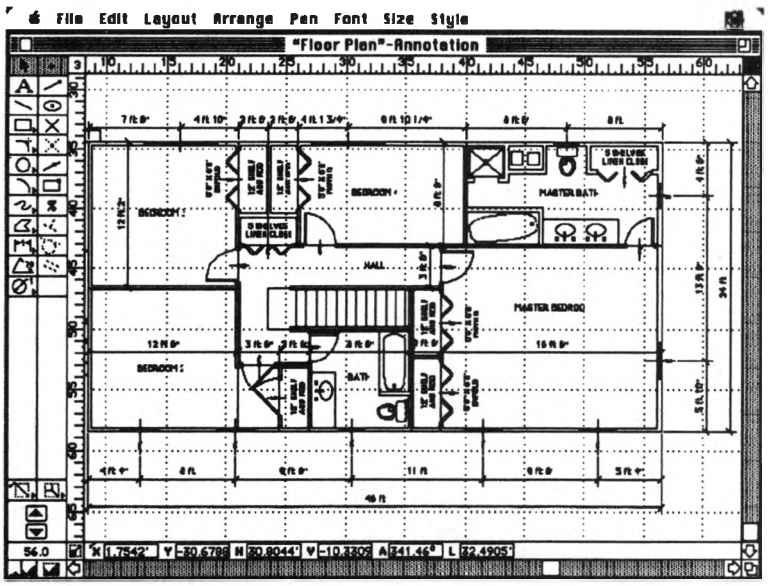
Claris CAD *drawing by Margot Cantwell for Carlisle Becker, Landscape Architect.*





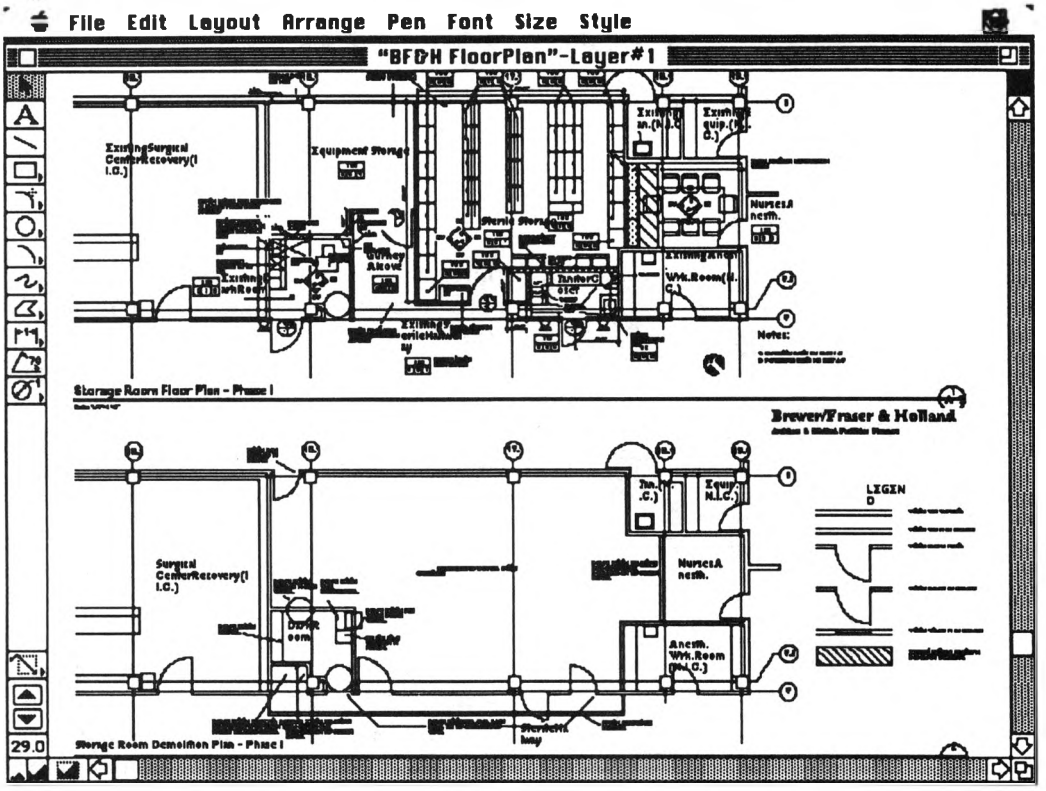
MiniCad+ *drawing by Margot Cantwell for Carlisle Becker, Landscape Architect.*

program has a very strong architectural bias (that is wonderful if you're an architect), unlike most 3D programs which tend towards mechanical engineering. While *Mac Architrion* provides a mated 2D application, it is not as nice a drawing environment as *Claris CAD*. Drawings can be passed from *Mac Architrion* into *Claris CAD* for detailing, via the PICT format (which of course has limitations, and is a subject for another newsletter, see **Database Precision** in the *Glossary of CAD Terms* for a brief explanation).



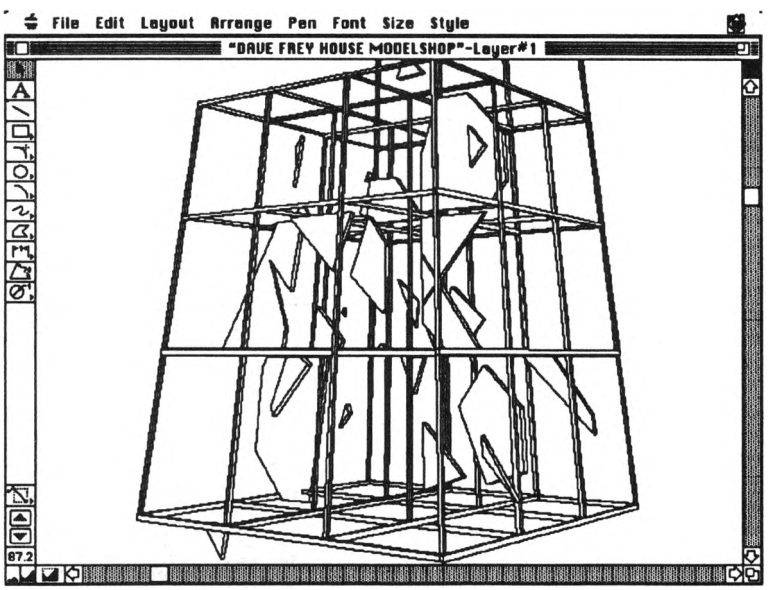
Dimensioned floorplan created with Claris CAD.

An interesting new entry into the Macintosh horse race for best CAD program is *MacMicroStation*. This convert from the Unix and DOS worlds is offered by a subsidiary of the long standing CAD heavy-weight Intergraph. Sneak previews of this soon to be released software indicate that it is more sensitively adapted to the Macintosh than either *VersaCAD* or *AutoCAD*. It offers a 3D surface modeling environment integrated with a 2D drafting package, and for the first time brings reference file architecture to Macintosh CAD. Reference file architectures allow one window to layer together several different drawings simultaneously and is a prerequisite for workgroup solutions. It allows several people in a design team to share base drawings, referencing the set simultaneously, yet only one user at a time gets write-access to a given drawing.


File Edit Layout Arrange Pen Font Size Style
"BF&H FloorPlan"-Layer#1
Storage Room Floor Plan - Phase I
Brewer/Fraser & Holland
Storage Room Demolition Plan - Phase I
29.0

MiniCad+ *drawing by Roger Moraes of Brewer/Fraser & Holland. Output in PICT and opened here with* Claris CAD.

The traditional-CAD/Macintosh-CAD dichotomy still exists, but the programs with a Macintosh origin are closing in from several directions. As Mac users are generally aware, a graphical interface is not as simple as putting a mouse next to the keyboard and slapping icons over the command structure. This is really not any different in the CAD world than in other software specialty zones. On a $60,000 engineering workstation with dynamic shaded three-dimensional rotations, you won't find such a basic detail as a smooth-moving mouse, let alone accessible user-selectable mouse speed. The Macintosh is exerting a very positive and growing influence on the larger CAD world. It should be a pleasure to watch things develop.

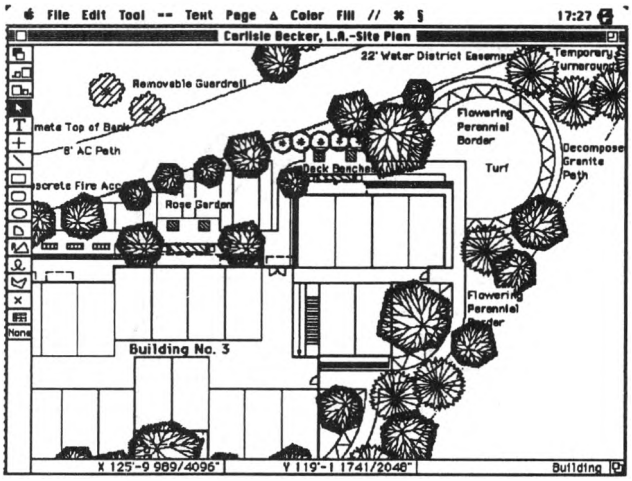


ModelShop *drawing by Doug Frey of Brewer/Fraser & Holland. Output in PICT and opened here with* Claris CAD.

Practicing landscape architect Margot Cantwell is Chair and founder of the BMUG CAD-SIG, and environmental designer Kevin Matthews is currently consulting on CAD systems for the Superconducting Super Collider project.

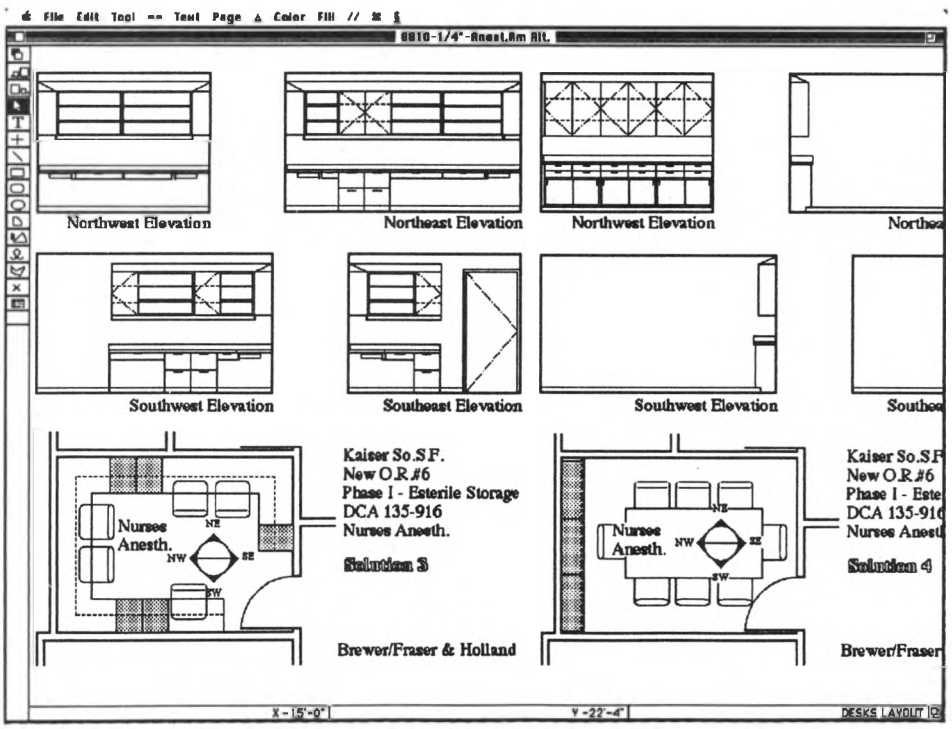
INTRODUCTION TO THE CAD REVIEW

by Margot Cantwell



MiniCad+ *drawing by Margot Cantwell.*

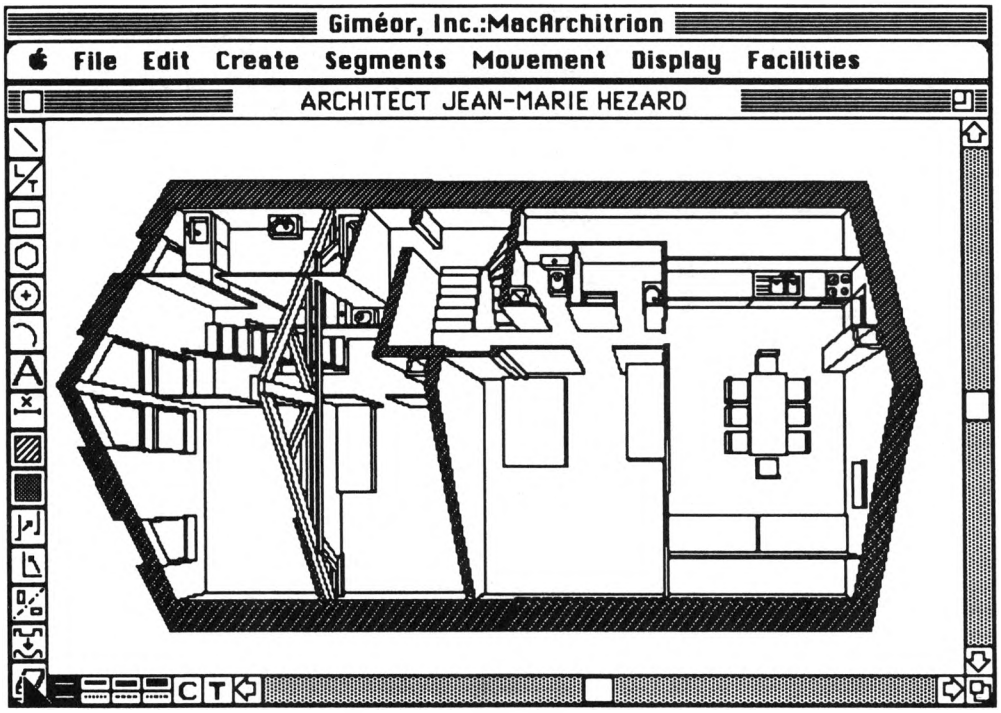
MiniCad+ *drawing by Roger Moraes of Brewer/Fraser & Holland.*



The Environmental Designers' CAD Special Interest Group (SIG) was founded as a forum for architects and landscape architects to look at software and share computer information useful to their professions. The SIG meets in two separate forums. End of the month meetings are a vehicle to share information and view products, and a middle of the month workshop hosts special projects. For the past year, the workshop time was used by members who were specifically interested in CAD software.

The workshop participants agreed to evaluate a specific CAD software package for BMUG in return for the opportunity to use the product at home for a period of several months. Participants chose a package they were considering purchasing, or were otherwise curious about. The review does not, therefore, reflect the five best (in our opinion) programs on the market, but rather programs members were interested in. Throughout the review process new programs came to market and were added to those reviewed, and other programs were dropped by their evaluators for numerous reasons (primarily personal). Also, the version of program reviewed was largely based upon what the manufacturer provided, and is therefore not always the most up-to-date, or expansive (and expensive) version. We apologize for the scattered choice of programs and versions caused by these factors. Fortunately, however, the final compilation of the reviews does contrast a reasonably good representation of the available program types.

The evaluation format is the result of much discussion and effort on the part of the reviewers. Members were generally disappointed with the magazine "List of



Axonometric view of a Mac Architrion *3D model.*

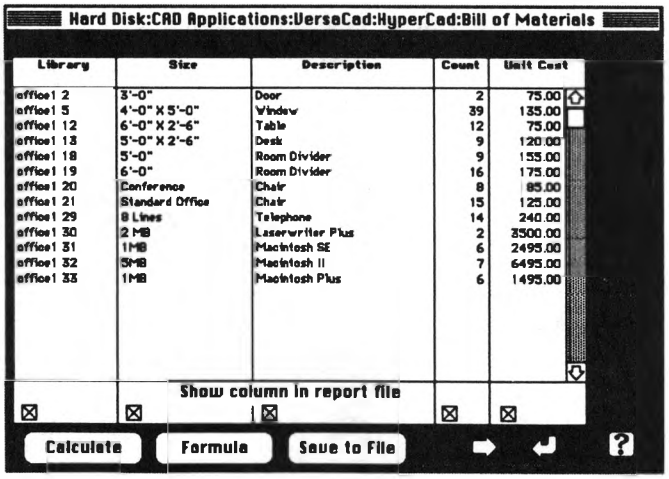
Features" format which simply indicated if the feature existed. Comments about ease of use, usefulness of the feature and extent of applicability (e.g. can all objects or only some be rotated), seemed more important to the Group. The format is therefore descriptive paragraphs of text about general categories of work. The narratives are not as neat as feature list dots for comparison due both to their size and the different interpretations evaluators brought to the categories of work. Nevertheless, we feel that the information is valuable, especially when used in conjunction with the magazine feature lists.

Finally, we wish it to be known that any omissions or errors in the review are unintentional. We have done our best to insure the correctness of the information. However, the reviews were conducted under the assumption that if we could not find a feature in the program menus or in the manual, for practical use purposes it did not exist. While perhaps a rather hard-line view, we were determined to write this from a users point of view. Also, in some instances, new versions of programs have been released which include features stated non-existent here. We believe that this is not a problem. Our evaluation format is descriptive of how an architect or landscape architect interacts with the program. For up-to-date features lists check the magazines. For the most part, the programs method of applying these new features will vary little from our narratives.

Five programs are included in this review: *Mac Architrion* 4.21E, *MiniCad+* 1.0, *VersaCAD* 2.0, *Claris CAD* 1.0 and *Pegasys I.* Many other programs were looked at briefly, but given the nature of volunteer work, did not make their way into print. What follows is therefore less complete and less thorough than we had originally envisioned. We hope you find it useful.

As a final personal footnote, I'd like to thank Steve Lukrofka for his enormous effort editing and laying out this material for print. This project mushroomed out of control for all of us, and Kevin and I, as editors, were soon consumed. "Thanks, Steve," for the final push. I am resigning from my position as Group coordinator this summer and Steve has agreed to take up the reins. If his dedication to this project is any indication, I am certain that the CAD SIG is in good hands.

Bill of Materials created with VersaCAD HyperCard Stack.


Hard Disk:CAD Applications:VersaCad:HyperCad:Bill of Materials
Library | Size | Description | Count | Unit Cost
office1 2 | 3'-0" | Door | 2 | 75.00
office1 5 | 4'-0" X 5'-0" | Window | 39 | 135.00
office1 12 | 6'-0" X 2'-6" | Table | 12 | 75.00
office1 13 | 5'-0" X 2'-6" | Desk | 9 | 120.00
office1 18 | 5'-0" | Room Divider | 9 | 155.00
office1 19 | 6'-0" | Room Divider | 16 | 175.00
office1 20 | Conference | Chair | 8 | 85.00
office1 21 | Standard Office | Chair | 15 | 125.00
office1 29 | 8 Lines | Telephone | 14 | 240.00
office1 30 | 2 MB | Laserwriter Plus | 2 | 3500.00
office1 31 | 1MB | Macintosh SE | 6 | 2495.00
office1 32 | 5MB | Macintosh II | 7 | 6495.00
office1 33 | 1MB | Macintosh Plus | 6 | 1495.00
Show column in report file
Calculate
Formula
Save to File

CAD Review

Edited by Kevin Matthews and Margot Cantwell

MacArchitrion 4.21

by Kevin Matthews

MiniCad+ 1.0

by Michael Buncick and Roger Moreas with Steve Lukrofka

Versacad 2.0

by David Alan Boyd

Claris CAD 1.0v3

by Steve Lukrofka and Kevin Matthews

PEGASYS I 3.0.3

by Margot Cantwell

OVERALL — FUNCTIONALITY

Mac Architrion allows comfortable modeling in three dimensions to an early design development level of completion, from which sectional views can be sent to the (currently, at least) less exciting two-dimensional module for detailing, or to other applications via PICT format.

Mac Architrion comes uniquely close to allowing a building designer to work creatively in three dimensions, at an early stage of design. In ***Mac Architrion***, one creates cuboid blocks casually, and then edits them quickly into the desired form working with an architecturally oriented tool set. For example, one mouse hit near the edge of a block will incline one or both horizontal surfaces to a specified slope. This is a very easy way to make roofs, and with other commands, such as cut block, align faces vertical or horizontal, and

MiniCad+ is an excellent value. It is a Macintosh-style drawing program with a data-handling spreadsheet, 3D wireframe creation, and a programming language. ***MiniCad+*** should be commended for this extensive collection of features. ***MiniCad*** 3D is not a true interactive implementation, with most functionality actually occurring in 2D. It's spreadsheet, however, is terrific, with real interaction between the graphic and it's associated data.

Many interface details are odd; not following typical Macintosh or other CAD system norms. Examples include: panning vs. scroll bars, excessive redraws, inconsistent auto scrolling, many frequently used menu options without keyboard shortcuts, etc. These are minor irritations.

The programs' major weak-

VersaCAD is a fully-featured 2D CAD environment with 3D Viewing capabilities. The program was completely re-written for the Macintosh, and yet still retains many characteristics from its DOS roots. Although it is a very powerful program, from a traditional CAD vantage point, it's interface deviates from the Macintosh standard, and is unnecessarily complex and arcane. ***VersaCAD*** could benefit from the innovations in drawing interface made by some of its competitors. Difficult to use aspects include grouping, object selection, layer management and three-dimensional features.

However, ***VersaCAD*** includes innovative extensions to the basic CAD functions. The program has database features not available in other products. Most importantly, ***VersaCAD*** provides access to its

Claris CAD is the easiest CAD program to get started with we have ever seen. Based on ***MacDraw II***, it has the same easy, and efficient basic drawing interface. It goes far beyond ***MacDraw***, however, with key features that make this a "true CAD program". Most notable are the easily available "positional modifiers" allowing points to be placed with mathematical rather than pixel accuracy.

Claris CAD is one of the most productive 2D drafting tools on the market today. Effective geometry construction, editing and comprehensive dimensioning are its most significant features. Consistency with ***MacDraw II*** has led to some compromises; for example functions for rulers, layers, patterns, symbol libraries and line weights are virtually identical and in each of these areas additional capa-

Pegasys I is a 2D drawing package including most aspects of traditional CAD. If your needs are straight forward vertical and horizontal line creation, relatively limited editing and manipulation, and plotter output, the program is satisfactory. However, be prepared for major deviations from the Macintosh interface, resulting in many unnecessarily difficult methods, especially the handling of editing commands. Don't be fooled by long features lists; ***Pegasys*** has a long list because it requires separate commands for every manipulation performed. More sophisticated interfaces group several functions under the same key (e.g. the gap command would gap all primitives). The Unix roots of ***Pegasys*** mean that on-screen line weights, Mac fills, and PostScript Fonts are luxuries not to be enjoyed without

linear and radial block repeating with independent XYZ increments plus automatic mitering, it makes for a very malleable model space. The powerful *Mac Architrion* environment falls quite a bit short of ideal, however, because manipulations are only possible in plan view. Even the just released new version, which allows working in section views, will not provide the combination of direct manipulation with continuous feedback that I would look for as an ideal design interface. It is still pretty learnable for a powerful 3D application.

ness for true CAD drawing is its' lack of positional modifiers. *MiniCad+* does provide generic snap modes that can be turned on or off. These, however, are no replacement for true CAD snap tools allowing accurate, on-the-fly positioning.

drawing database through *HyperCard* XCMDs and XFCNs. This gives the user/developer the opportunity to personalize and expand the software, using a familiar development environment.

If you enjoy drawing, and judge CAD software by the question "Would I give up my pencil for it" *VersaCAD* probably will not meet your criteria. If you are already using a DOS based CAD package and are comfortable with that interface, or need database capabilities which are not available elsewhere, *VersaCAD* is a strong contender.

bilities would be beneficial to advanced CAD users. Notwithstanding a few limitations, *Claris CAD* should meet or exceed most professionals requirements of a 2D Computer-Aided-Design/Drafting program.

paying for a more expensive version.

Rigidity is the stand-out characteristic of this program. You must work in the order demanded by the line prompts, and bang your fist at the limits to text handling, layers, grouping, and other such amenities.

OVERALL — METHOD

Mac Architrion uses a fundamentally verb/noun command syntax, wrapped in an iconic interface. The program's ease of use becomes apparent only after a short but significant learning curve.

Powerful 3D editing works in plan view only (except in the new, more powerful *Architrion II*), but an extremely fast toggle between plan, axonometric, section and elevation views lets you keep your mind in three dimensions.

Classic Macintosh, with noun/verb syntax. Very *MacDraw* like interface. At first *MiniCad* appears confusing because there are a great number of tools to choose among, however, under specific circumstances, one of the multiple approaches will provide the best results.

MiniCad uses the familiar select-object or tool, controlled with the mouse, or numerical input into a data box that accomplishes the creation or change of shape and/or position regardless of the current screen resolution.

Verb/noun creation method. Most features are accessible through both menu items and tool palettes and most menu items have keyboard equivalents.

As stated previously, while *VersaCAD* is a full featured CAD program, the methods of object creation deviate considerably form standard Macintosh drawing interface and are unnecessarily difficult to use.

To draw in *Claris CAD* you click on a tool icon and then mouse-down, drag, and mouse-up to draw a line or geometric figure. Editing is accomplished in classic noun/verb manner—click to select, then drag to move, re-size, etc. The shift key constrains actions to orthogonal lines. The oversize tool palette required for CAD functionality is cleverly condensed into a palette of "pop-over" icons. Holding for a moment on any of these icons causes new icons for related tools to appear adjacent to the basic icon and sliding sideways selects the indicated new tool.

Both creation and editing follow verb/noun syntax; the opposite of the *MacDraw* standard. Select the tool, select the location to begin, click down/up, then select the location to end and click down/up. To edit, select the tool for manipulation (e.g. move segment), select the final position according to the line command prompts (either a point, line or alignment), finally select the object you want to be adjusted. Not only backwards but arcane when multiple manipulations are being performed—each time the appropriate tool must be fetched and the object re-selected.

OVERALL — METHOD (continued)

			Selecting one of the positional modifier icons makes the next mouse-hit "snap" according to the type of modifier (such as end-point, center, corner, etc). Methods icons deftly control variations on how a tool operates, such as drawing rectangles center-to-corner or corner-to-corner. These are faster than hidden dialog boxes used by several CAD applications. Finally, a status line at the bottom of the drawing window allows direct typing of numbers for absolute, relative, or polar coordinates. The menus have keyboard shortcuts for almost all selections. This approach allows you to move along and easily select the appropriate command without being overwhelmed by a large number of options.	

3D MODELING — FUNCTIONALITY

MacArchitrion 4.21	MiniCad+ 1.0	Versacad 2.0	Claris CAD 1.0v3	PEGASYS I 3.0.3
Architrion has very good three-dimensional functionality. The main focus of the program is using 3D as your primary working module.	Not fully implemented (although still being promised?) and awkward to use. Manual does not cover well enough to use without significant testing on your own.	*VersaCAD 3D* is a separate application which extracts Z coordinate information from the 2D drawing database and extrudes drawing elements vertically to create perspective or isometric views. It is a very rudimentary visualization tool which has limited functionality. There are no creation tools of any type in this module.	*Claris CAD 1.0* is strictly a 2D program.	*Pegasys 1.0* is strictly a 2D program.

3D Modeling — method

Quasi-parametric block creation. Draw with 3D blocks as if they were fat lines, then pop into various three-dimensional views to see what you're making. Many architectural tasks are nicely supported—for instance, place holes in walls for doors and windows, with a single click for each, by cursor, centered, or at a specified distance from the end of the wall.	*MiniCad+* creates a 3D wireframe model from scratch or from an existing 2D drawing. This wireframe can then be manipulated to any orientation and perspectives or axonometric views can be rendered from it. These perspectives are actually 2D snapshots and are flat, like a perspective drawing is on paper. They can be displayed with shading, hidden lines or surfaces shown, but you cannot change their viewing orientation once created.	After opening *VersaCAD* 3D, drawings created in *VersaCAD*, are opened through the file menu. The application automatically interprets the Z coordinate information. Optionally, a simple 2D document may be opened and either extruded or swept according to user-defined parameters accessed through the "open" dialog box.	n/a	n/a

3D Modeling — tools

Powerful repeat functions: • radial, linear, linked (auto mitering) • independent XYZ incrementing Block editing (in plan view only): • change base, change height, incline face(s) • align top, bottom, align side face • move vertical edge • perpendicular cut, diagonal cut Powerful tools for inserting openings in blocks: • move opening • change sill, change lintel 3D object libraries: • open and merge with XYZ offsets (controlled registration)	• Reshape • Re-size • Position • Render (with set distance feature that does not work predictably) • 3D Symbols • Align	*VersaCAD 3D* contains no object creation tools. It is possible to extrude or sweep two or more drawings and then merge the documents into a single model, however this involves considerable preparation of manual calculations to assure that the created objects align properly, and there are no means of adjustment short of recalculating and re-merging the documents.	n/a	n/a

3D MODELING — TOOLS (continued)

- auto-parametric frame libraries
- place 2D plan, section, and elevation images into 3D model
- graphic scroll-thru with frame names

Alignment tools:

- snap to grid, auto-mitering, align faces, no snap to line, vertex, etc.
- join as T, join as L
- set reference coordinate at any point in any function

Query functions:

- opening lintel height, opening sill height, plan area of block

32,000 unit cubed world size

3D VIEWING — FUNCTIONALITY

MacArchitrion 4.21

Architrion provides a full variety of 3D line views, with rapid switching among them. The perspective options are laid out clearly. Subsets of objects in hidden line views may be rendered in wireframe and/or dotted.

MiniCad+ 1.0

A single view of the 3D wireframe can be rotated. Once a 2D rendered view (snapshot)has been created, the view can be modified with standard 2D tools. Example, a 2D shaded view of a cube can be edited to remove the top surface, showing the interior of the cube.

Versacad 2.0

All viewing is controlled through the menu bar. Features are limited.

Claris CAD 1.0v3

n/a

PEGASYS I 3.0.3

n/a

3D VIEWING — METHOD

View directions and section cut lines are indicated graphically in plan view. Hidden line and perspective options are controlled by editing fields in a dialog box.	The viewing angle can be established by selecting one of six predefined views from the 3D views menu or by specifying the rotation angle with a dialogue box or the mouse.	The Camera menu and its associated command keys allow the user to zoom, orbit or pan the model in user-defined angular increments. There is no mouse control of viewing and no other way of setting the viewing angle other than numerically, through a preferences dialog box. The user may choose one, two or four window viewing mode.	n/a	n/a

3D VIEWING — TOOLS

Axonometric and perspective views: • make selected blocks transparent • hidden line drawings • move around axo with mouse hits • set view with heliodon Section and elevation views: • quick, graphic selection • automatic thickening of cut lines • pan, incremental zoom, scroll bars • hidden line drawings • hide blocks • invert hide • show/don't-show frames • set default zoom by pixels per base unit • last view – plan, section	View Menu: • six predefined views • rotation angle by coordinate entry or mouse • user definable zoom magnification	No Tools • Camera Menu	n/a	n/a

MacArchitrion 4.21	MiniCad+ 1.0	Versacad 2.0	Claris CAD 1.0v3	PEGASYS I 3.0.3
3D RENDERING — FUNCTIONALITY				
Architrion 4.0 does only line drawings, with fast hidden-line calculations. The new *Architrion II*, just released, provides good color shading and shadow casting.	Rendering capabilities are limited to fill patterns from the standard Mac fill palette. The program assigns a fill pattern (that you can later change) to the 2D surface polygons representing the 3D image. Dithering and Color are not supported by the rendering command. Only one light source which cannot be repositioned.	As with other aspects of *VersaCAD 3D*, the tools available for rendering are very rudimentary. While the hidden surface mode works acceptably well, the shading mode is inflexible and models of any real complexity are virtually unreadable.	n/a	n/a
3D RENDERING — METHOD				
Indicate eye and look-point with mouse, then adjust projection parameters in a nice dialog box.	Select an object or group of objects, specify the view, execute the render command to generate a 2D "rendered" snapshot of the 3D wireframe.	All rendering functions are accessed though the Rendering menu.	n/a	n/a
3D RENDERING — TOOLS				
• special views dialog box	• Render command • Utilize any tool for modification of the 2D rendered image and/or 2D wireframe projection.	Rendering Menu: • wire frame • hidden surface removal • shade	n/a	n/a

MacArchitrion 4.21	MiniCad+ 1.0	Versacad 2.0	Claris CAD 1.0v3	PEGASYS I 3.0.3
2D/3D INTERACTION — FUNCTIONALITY				
Well integrated connection between separate modules. While expensive workstation engineering systems now provide 2D detailing of live 3D models, no architectural program does, including *Architrion*.	All 2D tools work in either 2D or the 2D snapshot taken from the 3D model. *MiniCad+* provides separate 3D manipulation commands for viewing and rendering. When in 3D mode the Z coordinate is defined. There is one integrated database for both 2D and 3D entities.	*VersaCAD 3D* is primarily an interpretive tool. There is no true interaction between the 2D and 3D modules.	n/a	n/a
2D/3D INTERACTION — METHOD				
"tracing layer"—use PICT as background in 3D. "frame libraries" allow two dimensional objects to be rendered in 3D scenes.	A 3D wire frame is created by either extruding or sweeping a 2D object. The 3D wireframe is not intelligent and conversion into a 2D drawing is impractical.	2D and 3D are separate applications. A 2D object is brought into 3D as 2D and then extruded, etc.	n/a	n/a
2D/3D INTERACTION — TOOLS				
• save view as 2D drawing file • import PICT as tracing layer	• Extrude • Sweep • Multiple Extrude • Convert to Mesh • Convert to 3D		n/a	n/a

MacArchitrion 4.21	MiniCad+ 1.0	Versacad 2.0	Claris CAD 1.0v3	PEGASYS I 3.0.3
2D MEASURED DRAWING — FUNCTIONALITY				
The two-dimensional drafting module is precise and full featured, but slow with even medium size drawings. It also suffers from an unusual approach to handling layers, in which there is one special layer called a "worksheet" with capabilities different from other layers.	Drawing is quick and efficient with familiar Mac-like use of mouse drawing and "data boxes". Objects positions are shown in a coordinate display at the bottom of the window. Dimensional information about the object may be found using a caliper tool, or is automatically given during reshaping (with X & Y info. disappearing). Simple snap to grid, objects, locus, and snap-drag-cursor functions help place graphics, but sophisticated positional modifiers are sorely lacking. There is no indication or feedback of the line weight for the selected item, but instead the menu defaults to the last created line. No rulers.	*VersaCAD 2D* is a very powerful CAD package from a traditional micro CAD vantage point. It contains a full complement of primitives and construction and modification tools as well as database capabilities that go well beyond a simple "drafting" package. However, there has been little effort to work within the commonality of Macintosh graphics applications or to innovate in the area of ease of use.	This is an area where *Claris CAD* excels. Positional modifiers and typeable coordinates make *Claris CAD* a reasonable tool for creating a dimensionally accurate design database. The approach is unique, and will require some mental adjustment on the part of CAD traditionalists, but is powerful and effective none the less. Problems exist with aligning grouped objects (and therefore most library objects) and with registration between layers that currently limit the potential of *Claris CAD* for managing large, multi-organizational design projects. You can easily place geometry in the center of another part or at the intersection of two parts using positional modifiers. Taking this concept one step further are three "Constraint" modifiers which allow creating an item perpendicular, tangent or parallel to existing objects.	Simple mouse drawing is fast and efficient. Snap tools are very easy to use and can be locked on for repeat functions. Several serious bugs found: reference points and coordinate entry (particularly polar and deflection) were too unstable for use; cursor often disappears from the screen and then reappears elsewhere; double lines became closer together in one section of a wall; the program bombed frequently when hatch patterns were applied. The grid reigns supreme; there is no information other than X and Y. To find the length of an angled line while drawing it is impossible. Also, unlike many Mac drawing programs, only one line width is shown on the screen, making it almost impossible to create a nice graphic.
2D MEASURED DRAWING — METHOD				
Archi2D uses an iconic verb/noun interaction style, including needing a "move" command to move objects.	Simple and straight forward; begin with the tool at the beginning or starting point of an object and draw to its conclusion or finish. The basic snap functions provided are	The creation of primitives is fairly consistent with other Macintosh graphics packages; it is in the editing of objects that the interface becomes cumbersome. In addition to	The *MacDraw* interface has been extended in significant ways to support accurate drafting. Selecting one of the positional modifier icons makes the next mouse-hit "snap" ac-	Drawing Method is verb/noun. You select a tool, click down/up on the location to begin, then click down/up again on the location to end. The abundant snap tools can

	turned on and off via menu selection.	primitives located on the Tools palette, the Constraints palette contains tools for directional locking and snapping to the grid and objects. Most tools have additional options, available by double-clicking on their icon, that give the user total control over the creation of objects. Relative and absolute polar and angular coordinates are echoed in the Coordinates palette and object coordinates can be entered with the mouse, or through the keyboard but not both. The Messages palette prompts the user as to the use of tools and is very helpful given the deviations in the interface.	cording to the type of modifier (such as end-point, center, corner, etc). A status line at the bottom of the drawing window allows direct typing and independent fixing of numbers for absolute, relative, or polar coordinates, allowing the user to explicitly enter the coordinates during the creation of any item. Distances can be specified in decimal units or feet and inch notation as well as utilizing math functions as the units are entered. Cut and paste are also supported, so the width of a piece can be copied and pasted into the attributes of another. The "Show Info" floating report window allows direct editing of object dimensions and location in a uniquely transparent fashion.	be accessed while drawing with easy key equivalents (i.e..M for midpoint, V for vertex). The End option is the only way to exit the current command without reverting back to the default options. Cursor position information is displayed at the bottom in either relative, absolute, or polar units. Unfortunately, all options only display the X and Y axis information, which is extremely frustrating when drawing diagonal lines. Objects may be drawn directly from the keyboard by entering relative, absolute, polar or deflection coordinates (defined from last angle) directly into a dialogue box. Again, points may only be defined relative to the X and Y axis.

2D Measured Drawing — tools

Create: • segments, parallel, linked, segments, circles and arcs, notes (limited note length), dimensions, accessories, fonts, line types, textures, (powerful and easy pattern definition), frames View controls: • pan and zoom at definable non-fractional intervals • previous view • no zoom point-point	• constrained and unconstrained line (3 types) • constrained and unconstrained double line (3 types) • square/rectangle • rounded square/rectangle • oval, circle (5 types) • quarter arc, full arc (5 types) • polygon, and polygon double line • 5 preset line thicknesses plus user-defined • 9 dash patterns.	Creation Tools: • Line • Double Line • Rectangle • Polygon • Circle • Arc • Bezier • Point Constraint Tools: • Free Rotation • Angle Lock • X-Lock, Y-Lock • Snap On-off • Intersection Snap	Positional modifiers: • end-point, center, intersections, percentage from end, nearest-on-object, corner, parallel, perpendicular, tangent, • basic double-line construction • Fillets and chamfers • Splines • Standard or custom hatch patterns, plus Mac-style pattern fills • regular polygon tool	Snap tools: • vertex (end-point) • origin (center or end-point, depending on object) • midpoint • closest • normal/perpendicular • tangent • intersection (of current angle and object) • junction • end

2D Measured Drawing — tools (continued)

Unconventional use of layers:
- 256 available
- nice graphic control of layer editing/viewing status
- layers problematic due to lack of color (except in *Architrion II*)
- named layers

Snap to:
- line end-point, circle center, distance from end-point, ratio point

Editing:
- join with fillet, as L, as T, move end-point, move intersection, elongate by mouse, by value, smooth linked segments, move/duplicate with assorted symmetries

Accessory libraries:
- graphic scroll-thru with names
- swap with placeholders
- create named objects for frame libraries
- slow redraws (auto redraw on/off)
- limited built-in fonts
- import and export PICT
- undo last action
- includes plotter support
- LaserWriter support (seems unusually slow on dense graphics)

- Increment Snap
- Grid Snap
- Object Snap (snaps to nearest object vertex)
- Equation Snap (snaps to nearest point on object)

- Multiple construction methods for line, rectangle, ellipse, circle and arc
- Optional keyboard entry of size/location—absolute, relative, polar—input at status line and in show info window
- User-definable colors, drawing scales and snap-to grid spacing
- Up to 255 custom or standard dashed lines
- Up to 255 custom or standard line densities (to 1 1/2 inches)
- Up to 16,000 preset or custom fill patterns
- Clipboard support for text and graphics (including scanned images/bitmaps)
- paste from clipboard with flipping, individual X and Y scaling and rotation

Shortcuts:
- close poly
- vertical constraint
- horizontal constraint
- set point
- last object

Creation tools:
- Single and double line, in single or multiple segments
- rectangle
- circle
- ellipse
- polygon
- fillet
- arc
- spline
- reference points
- hatch patterns

15 pen sizes for plotting

7 dashed line styles

MacArchitrion 4.21	MiniCad+ 1.0	Versacad 2.0	Claris CAD 1.0v3	PEGASYS I 3.0.3
2D FREEHAND DRAWING — FUNCTIONALITY				
Archi2D is a drafting program, with no specific features for freehand drawing.	The freehand drawing tool is similar to that in most Mac programs. The cubic spline curve and Bezier curves are confusing—it's hard tell which you're using.	*VersaCAD* contains no freehand drawing tools.	*Claris CAD* provides a freehand drawing tool that lets the user draw an irregular line with the mouse. *Claris CAD* does not currently support bezier curves.	Not the programs strong suit. You cannot draw a curved line directly with your mouse.
2D FREEHAND DRAWING — METHOD				
	Similar to *MacDraw*. By clicking on the corner of the tool the typical freehand tool is converted to a cubic spline tool. The cubic spline curve can be converted to a Bezier curve or to a portion of a straight segment polygon by selecting that option from the Edit/Smoothing menu.	The spline tool can be used to draw typical curves.	Draw curves interactively, and reshape them interactively by dragging handles. The old and new curves are both displayed, helping keep track of fine adjustments. To remove handles simply Option-Click when you are reshaping the element. Freehand items can also be converted into cubic spline curves.	Splines are drawn by selecting points; the program creates curved lines by calculating a third degree polynomial spline between the selected points. Vertexes may be added or deleted.
2D FREEHAND DRAWING — TOOLS				
	• Freehand tool • cubic spline curve tool		• spline • reshape • Freehand, object oriented sketching	• spline

MacArchitrion 4.21	MiniCad+ 1.0	Versacad 2.0	Claris CAD 1.0v3	PEGASYS I 3.0.3
2D VIEWING — FUNCTIONALITY				
Normal grade two-dimensional viewing, without a lot of frills. Pan and zoom in the middle of most any operation, but not dynamically. Classes of objects can be hidden to allow faster redraws.	Named views are saved with layer and object-selection information along with viewing area. Standard zoom rectangle and zoom out rectangle. Program inconsistently auto-pans to follow cursor at edge of page (e.g. text and freehand tools don't auto-pan). No scroll bars. The program redraws excessively. Even changing layers, without adjusting the view prompts *MiniCad* to redraw. Missing scroll bars also create lots of redraws while moving page by page to the end of a large drawing. Multiple documents open at once, but only one document per window.	*VersaCAD* allows only one window per document and one open document at a time. There is no ability to store multiple views of a document. Up to 256 colors can be displayed on the screen and object colors are set through the Properties palette at the time of creation or during editing. As with the Color dialog in the Settings menu colors may be selected through a pop up palette but current settings are displayed as numbers. The screen scale is defined in real world coordinates and the maximum zoom is actual size. Redraw is reasonably quick on a Mac II with 5 megabytes of memory.	*Claris CAD* moves beyond the typical drawing program by providing zooming to an arbitrary area (zoom rectangle) in addition to double- and halve-zoom icons, saved views with names appearing automatically in a pull-down menu, and a nicely presented layer management system. The view pans dynamically when the cursor touches its edge. View multiple drawings at once, each in its own Macintosh window, but only one window onto each drawing. *Claris CAD* also offers some handy window arrangement functions, which automatically stack or tile multiple windows.	While generally similar to other programs, *Pegasys* does add the ability to choose a specific area to fill the screen (zoom rectangle), which is a nice bonus. Zooming is very reliable, you always seem to end up where you want to be. Unfortunately the program does not automatically pan at the edge of the screen—a Pan command must be used. Only one window showing one document open at a time. Manual control of screen redraw with the refresh view command avoids waiting.
2D VIEWING — METHOD				
Click icons or pull down menus to zoom by fixed ratios.	Use the pan tool (a little hand) to direct panning, and some auto-panning. Keyboard arrow keys also change viewing area. Fixed zooms are controlled by key combinations or icon hits. Fixed views are obtained by menu selections or command key input.	Viewing is controlled via horizontal and vertical scroll bars, the Settings menu (see Drawing Environment below), and a palette of tools in the lower left of the window. Limited to 1 window per drawing.	Click zoom icons, or the "zoom rectangle" icon. The percentage enlargement is displayed and can be directly changed by double clicking and entering an exact value. Also, zoom to fit within the current window. Pull down menu and enter name in dialog to save a view.	Choose the zoom command you want, position the cross-hairs on the center of the view you want, and in or out you go. The zoom rectangle command is also available. The pan command centers the screen around the location of the cross-hairs. Other commands are standard.

2D Viewing — tools

- zoom in
- zoom out
- pan

- Pan, zoom in, zoom out, fixed 0.25x, 0.5x, 1.5x, and 2.0x zooms, normal (1:1)
- fit to window
- named saved views
- zoom rectangle
- cursor keys

- Base Window (defines real world dimensions)
- Window In (factor of 2, or user selected area)
- Window Out (factor of 2)
- Window Full (restores base window)
- Sketch (window refresh)

Multiple document windows:

- Stacked or tiled window arrangement

Nine user-definable saved views of any drawing

Zoom rectangle (from 3% to 3200% of the original size)

- zoom rectangle
- zoom in
- zoom out
- pan
- full view
- actual size
- previous view
- refresh view

2D Editing — functionality

MacArchitrion 4.21

The editing functions are solid, but unexciting, and more in a traditional CAD vein than "Mac-like."

MiniCad+ 1.0

Editing is quick and efficient with familiar Mac-like use of mouse dragging and "data boxes". Boolean operations such as union and intersection can be performed between objects, to generate new 2D shapes. Reshape command allows object dimensions to be modified with numerical values. The join command cleans-up double line wall intersections.

Versacad 2.0

Object editing is perhaps the most awkward aspect of the *VersaCAD* interface. The object properties dialogs available under the Edit menu are generally well organized and useful. However, the on-screen manipulation of objects is unnecessarily difficult.

Claris CAD 1.0v3

Nice smooth Mac-style editing, with significant CAD enhancements for detailed control of more complex graphics. All the standard features are available, re-sizing by handles, constraining with the shift key, etc. Enhanced capabilities add substantial drawing efficiency. The powerful trim tool can easily cut or place an opening in a line as well as visually show the portion to be trimmed from a circle or arc. Other advanced tools allow reshaping or smoothing/unsmoothing polygons, cubic spline curves, freehand lines and arcs, along with mirroring items about an axis.

The positional modifiers work in edit functions, allowing easy, consistent precision.

PEGASYS I 3.0.3

Editing is abysmal. *Pegasys* is not the land of cut and paste. The manual even recommends against using these functions for routine removal and placement.

The most difficult part is determining which tool to use. You cannot even select an object to move it without first getting the move, move group, or move arc end-point tool. The delete key does not work reliably and Command Z (undo) is not always available. Hatches can't be modified. Delete tool is unstable.

Best feature is that the positional modifier tools work in the editing mode and are smooth and easy. Rubberbanding for rotation shows you what you are getting, better than the standard *MacDraw* handles for rotation.

2D Editing — method

More in a traditional CAD vein than "Mac-like." Use icons—no typing—but with a verb/noun syntax.	Simple and straight forward. Select the handle of an object and drag to a new size, or enter position of points in "data boxes".	Objects are edited in an awkwardly defined selection set. All editing functions act upon the selected "group". Select by several methods: Group by Properties (level, pen, color, group name, etc.), Group by Fence (either inside or outside the marching ants), Group by Objects or Group by Inverse. Usual Mac click-and-drag method of selection does not work, and there is no visual feedback on what objects are selected. Only one object's handle is visible at a time. Each object has a "Handle", by which the cursor holds the object and a "Pivot Point" about which the object rotates. Clicking on either and dragging repositions the object accordingly. Handles can be precisely located using the positional modifier functions. Object geometry and properties are edited through dialog boxes accessed with the Edit menu.	Click and drag, plus select positional modifiers and edit methods from palette and pop-over icons. To exactly re-size an entity, double click in the show-info window and enter a value. To rotate, select, and drag a handle to the angle desired or enter the units through the keyboard. If a copy of an object is required, in addition to the standard *MacDraw II* duplicate command, Linear and Polar array duplication are available. Using the clipboard separate X and Y scaling, angle and flipping options can be specified.	In general, select the tool for what you want to do (move, delete, rotate, etc.) then select the point, line, alignment, etc. that the program prompts for to indicate the final position, rotation, etc., finally, choose the object you want this to be done to. The exact opposite of the Mac-interface. Frustration sets in when doing multiple manipulations—you can't just select an object and size, move, and change it's line weight; you must each time get the appropriate tool first and then re-select the object.

2D Editing — tools

A fairly typical selection; relatively complete, and somewhat cumbersome.	• Snap to Grid, Objects, Locus, and Snap Drag Cursor modes • Reshape, Join, Trim, Fillet, Intersect, Scale, Move, Align, Polygon Smoothing	Construct Palette: • Extend/Trim (two lines, line to arc, circle, ellipse) • Break (fence, one object, intersection of two objects) • Fillet • Chamfer	• duplicate • linear duplicate • polar duplicate • round corners • reshape • trim	• move • copy, copy radial • mirror copy, mirror • scale • rotate • move segment • group/ungroup

	• a special cursor called the Caliper displays dimensional information about the Object Boolean commands: • Add surface, Clip surface and Intersect surface • Convert to polygon or Convert to lines	• Perpendicular X (creates a line perpendicular to a selected line) • Parallel (creates a line parallel to a selected line) • Tangent (creates a line to a tangent point of a circle) • Isometric (allows construction of an isometric drawing from a plan and two elevation views) Tools Palette: • Move (attaches current group to the cursor) • Copy (attaches copy of current group to the cursor) • Rotate (rotates object around "pivot point") • Mirror Image • Explode (breaks an object into lines)	• smooth • spline smooth • alignment in various ways • align to objects • align to grid • rotate • flip horizontal • flip vertical • mirror • group/ungroup • lock/unlock • join/unjoin • select adjoining • restyle pens, dashes, arrows • move by dragging or by coordinates • Undo/redo	Under Modify menu: • move group member, move arc end-point • copy object repeat, copy group member • delete vertex, delete segment, delete group member, delete gap • change layer, change pen, change style of object • break line at all gaps, vertices or vertices picked • insert vertex, gap arc/circle • align, overlay • convert Under the Locate Menu, all snap tools listed under 2D Drawing, plus: • Start Gap Segment • Change Fillet Radius • Complement Last Arc

2D Text and Dimensioning — functionality

MacArchitrion 4.21	MiniCad+ 1.0	Versacad 2.0	Claris CAD 1.0v3	PEGASYS I 3.0.3
Vectorial or bit-map text and patterns, but no PostScript fonts.	Text is very similar to *MacDraw* text handing capabilities except that text wrap within a boundary is not supported. Similar to line weights, there is no indication of the font or point size of selected text, but instead the menu defaults to the last font and size set. Dimensioning is available with a lot of useful options. Witness lines are automatic or may be turned off. Dimension call outs can be on or off (ad-	Text in *VersaCAD* documents is limited to Vector Fonts although postscript fonts are accessible when printing to a postscript output device. Text can be imported through the clipboard, however, exporting text yields a non editable PICT object in another application. *VersaCAD* does allow the user to create custom vector fonts by creating characters in a drawing file and using the included Crunch application to trans-	Very nice Mac-style text placement, editing, and styling, plus excellent and very efficient automatic dimensioning tools. Dimensioning is superior to any CAD software available on the Macintosh today. There is some dimensional associativity—if a dimension and an object are grouped (or both selected) and stretched, the dimension will automatically update to display the correct size.	*Pegasys* fonts are vector fonts, not postscript. They function abysmally. Dimensions and leaderlines are easy and quick.

2D Text and Dimensioning — functionality (continued)

	justable in points) the line and automatically rotated on vertical dimension strings. Objects do not re-dimension when resized unless the appropriate dimension is manually selected prior to re-sizing.	late the drawing into *VersaCAD* vector font format. Dimensioning is one of the best aspects of *VersaCAD*. The tools are intuitive and easy to use and both linear an angular dimensions are supported.	Multiple fonts, styles and sizes within text block; Text can be aligned, justified, colored and rotated to any angle.	

2D Text and Dimensioning — method

Type text a line at a time into a dialog box, not onto the drawing. Semi-automatic dimensioning.	Text: select text tool, click mouse to locate text cursor, type. Formatting must be done with returns. Text rotations are restricted to 90°. Only one font type, style, or size within a single text block. Dimensions: select a dimensioning mode from the Tool menu, click the mouse to locate the position of the dimension string, then click the mouse on each point to be dimensioned.	Text is entered by selecting the Text tool in the Tools Palette and typing into the resulting dialog box. When entry is complete text is positioned with the cursor. Text entries are limited to 72 characters. Text may be edited by selecting the text object and using the Geometric Properties dialog. The font is set by size according to the scale you're using, in a Text dialog accessed by double clicking on the text tool. The font size equivalents of the numbers are given in the appendices of the manual for each supported output device. (This is yet another example of an unnecessarily contorted interface.) A double click on the dimensioning tool icons opens a dialog where the user can control method of creation (single, chain, base), text position, units of measurements, lines and arrows.	Excellent text handling and dimensioning. Click and type onto the drawing for text. Text may be rotated freely. Dimensioning is automatic, in that you just click object and drag a dimension line offset for single dimensions. For chain dimensions, just add more clicks at additional witness points. *Claris CAD* will automatically refer to one of the drawing standards listed below for witness line extension and gap, dimension text gap, etc. Customized standards can also be defined for specific needs. To change the appearance of a dimension-line group, choose any value in a floating window of styling options. This immediately modifies the dimension.	Select Text tool. Double click to change *Pegasys* font types (which include architect, block, capital, computer, default, poster, western!, etc.), sizes (defined by height in drawing, not font size), location (left or right justified, or centered) or slant. Type in text box (delete key does not function—must select mistake and hit space bar!?). You cannot change font size and type once text is on the drawing. Modify text command allows for content changes only. Select Dimension tool. Double click to change type (incremental, baseline inside or outside, string or datum), text location, arrow type (16 fixed options), units, format and rounding. Must locate four points, then 1 point for each subsequent dimension. Select Leaderline tool. Execute like a multi-segmented line. Double click to select arrow type (16 options).

2D Text and Dimensioning — tools

	• text • Horizontal, vertical, diagonal, and angular dimensioning • Object overall, partial object, object to object, chain, point to point, diagonal, angular, and dimensions of lines are supported	• text • Vector Fonts Dimensioning Tools: • Linear dimensioning • Angular dimensioning • Options	• text icon, font menu, style menu, size menu, justification • dragged size • color by pattern-bar hits • auto-size lines (MacDraw II style) • linear, radial, angular, and diametral dimensions • chained, and datum dimensions • circle center marks Dimension styling: • custom arrowheads and tickmarks • fractional or decimal display • text positioning above, below or inside dimension line • tolerancing • leader placement control • radius and diameter symbol display Automatic drawing standards: ANSI Y14.5; ISO; DIN; JIS; BS308	• text • dimensions – 5 types • leader line Modify menu: • modify text command.

Compound Data Structures — functionality

MacArchitrion 4.21	MiniCad+ 1.0	Versacad 2.0	Claris CAD 1.0v3	PEGASYS I 3.0.3
An innovative approach with three major types of libraries, for 3D, 2D, and unique "2½D" frame objects, plus some other stuff. Grouping is typical.	Good layer handling. Named layers—can be independently scaled, colored, made active and/or visible. Layers above and below the working layer can be turned on or off or grayed.	*VersaCAD* allows access to 256 drawing layers. The layers are listed numerically and do not allow for the naming of layers. The lack of names and invisibility of inactive layers is very limiting.	In this category *Claris CAD* offers grouping, layers and symbol libraries. The capabilities for grouping are simple yet complete and consistent with *MacDraw II*. The lack of ability to grey a selected layer or make only a single	Provides layers, grouping and symbol libraries. 256 Layers cannot be named, greyed, or rearranged in another order. Groups may be named (ten characters), nested and counted (e.g. how many doors). The program will also

COMPOUND DATA STRUCTURES — FUNCTIONALITY (continued)

The enter/exit group function groups objects hierarchically. Those groups can be edited on a level by level basis, without having to change object grouping. Nice feature. Symbols are filed hierarchically. In addition to symbols, ***MiniCad+*** provides naming and classing of objects. One can assign an invisible polygon a name and then access this object with spreadsheet functions. Object and class attribute data can be modified. New classes can be created and deleted and assigned or reassigned from a dialogue box.

Objects must be saved as separate files before they can be placed in a library, to be used as symbols.

Groups of objects may be named and saved.

layer not selectable make it awkward to establish a reference layer within the drawing. ***Claris CAD*** only being able to see layers that are below the current layer, regardless if they are hidden or shown, leads to layer shuffling.

Any object or group can be easily defined as a library object for later retrieval. Commercial libraries are available from third-party vendors.

produce a printout of every named object on the drawing and it's coordinates. Symbol libraries may be created and saved by name in files on disk (no visual representation). Symbols cannot be re-sized while pasting.

COMPOUND DATA STRUCTURES — METHOD

Use symbols that come with the package, or draw your own and add them to any of the different library types.

The frames are innovative—draw plan, section, and elevation in 2D, and then place the frame in an opening. When the opening is viewed in 3D, the appropriate view is shown. For example, this lets you have a closed door with fancy windows in elevation, and a simple open door with door-swing for the plans, all in one automatic symbol.

One dialogue box controls all layer options with button type selection.

Grouping and editing objects within the group structure are accomplished in a familiar Macintosh manner.

Symbols are created by assigning a reference point to an object and then selecting Create Symbol from the Layer menu. One dialogue box controls all symbol options with button type selection.

New classes are created/ deleted, assigned/ reassigned names, and all attributes are

Layers are manipulated with the Levels dialog box. The only options available are on and off with a check box for all layers on.

Select library objects graphically from palette.

Named objects can be given database type attributes through the ***HyperCard*** utilities.

Any selected elements can be grouped and treated as one object.

Any number of layers can be defined, shown or hidden and stacked as the user requires. One can move to a layer by selecting the layer command from a menu, going to a dialog box and double clicking, or move one layer at a time by clicking the direction arrow on the desktop. The layer commands do not have a keyboard shortcut.

Symbol creation allows selecting any number of grouped objects for naming and storage into the library. Other

Layers, Groups, and Symbols are selected through dialogue boxes. Some adjustments tools may be accessed during placement: symbols can be rotated, and groups can be mirrored during placement (handy for doors).

Hierarchical groups are supported.

	controlled from a single dialogue box, typing is required only for assigning unique names.		drawings can be opened as libraries, presenting a library window for each allowing symbols to be graphically selected. They can be copied to the clipboard for pasting with special scaling capabilities.	

Compound Data Structures — tools

• 3D library (3D) • frame library (2 1/2D) • accessory library (2D) • pattern library (2D) • block parameter library (named 3D block types)	Layers: • set layer, gray other layers, show other layers • Layers, specific: active/not active, normal, grayed, invisible, scale, color, transfer mode, and order. • group, ungroup • classes – visible, don't fill, and invisible. Symbols: • create, select and file, convert symbol to group, rotate, edit symbol field(s), edit item field(s)	• grouping functions • levels dialog box • library	• Hierarchical grouping • Number of layers limited only by memory • Hide/Show any combination of layers Symbol Library: • Create and save objects in scale • Access symbols visually or by user-defined labels • Place symbols by center, corner, etc. with position modifiers	• Layer number typed into Status Bar Group Menu: • Group, Ungroup • Name, Count Group, Select (of type you wish to select) • Count Group Name (of name you wish to type) • Full List, Insert, Replace, Terminator File Menu: • Save Symbol • Retrieve Symbol

Non-Graphic Data Handling — functionality

 MacArchitrion 4.21	 MiniCad+ 1.0	 Versacad 2.0	 Claris CAD 1.0v3	 PEGASYS I 3.0.3
Very innovative and useful automatic and semi-automatic "quantifier" module.	*MiniCad's* spreadsheet has a rich set of predefined functions. The spreadsheets are useful for tabular information such as area tables or schedules. There is a problem with typeface selection—any type face as long as it's Geneva. Convenience touches include	*VersaCAD* makes extensive use of *HyperCard* to give the user access to the *VersaCAD* drawing database, non-graphic data, and file data. The stacks are generally well designed and allow a greater level of interaction with the *VersaCAD* software.	No real attribute data stuff, but a snazzy "Show Info" box which reports and allows editing of dimensional parameters of the selected object, including area.	No attributes data stuff but a first class on-line calculator, allowing for unit and metric conversions, and including many built-in functions for logs, and square roots, etc. This is a great addition to a CAD program.

NON-GRAPHIC DATA HANDLING — FUNCTIONALITY (continued)

	paste reference, allowing object name insertion into a formula or function by selecting it in the drawing. The included macro programming language, *MiniPascal*, gives you access to tools, menus, spreadsheets, and some otherwise hidden functions. Example macro files are included with *MiniCad+*.			Limited "show info" box does give line lengths you wish you had while drawing. Doesn't show object area.

NON-GRAPHIC DATA HANDLING — METHOD

Feeds dimensional information of various types—like baseboard and centerline room perimeters, floor areas, wall areas by exposure, etc—sorted by rooms and by library object, into ASCII or spreadsheet-format files.	Typical spreadsheet use of data/formula entry/edit bar, cells by row and column, etc. Text files from macros are incorporated with the use of a specialized Import Text from the File menu. *MiniCad+* will directly generate text files from graphic objects for use in other macros.	*VersaCAD* file information is moved in and out of *HyperCard* using two XFCNs (External Functions). Data is then interpreted in *HyperTalk*. *VersaCAD* has actively encouraged third party development through its *HyperCard* extensions and may be leading the pack in allowing users access to internal file structures through *HyperCard*. While most all of the stacks provided are useful. I question why some of their features were not incorporated into *VersaCAD*. Specifically, the Level Manager and Text to *VersaCAD* functions should be a part of the application.	Select object, choose Show Info from menu to display parameters, and click fields to edit them.	The calculator is on-line at all times. Anytime your would enter a number, you can also enter a function, a metric measurement, etc. and the calculator will do it's stuff. To review object information, select it and choose Show Info from menu.

NON-GRAPHIC DATA HANDLING — TOOLS

Quantifier module	Spreadsheet Menu: • Open/Close spreadsheet • Paste Reference/Function • Number Format	Included Stacks: • *HyperCard* Utilities • Bill of Materials • File Dump	• show info floating palette	• show info

	• Cell Alignment/Border/ Width • Recalculation Macro Programming Language	• Schedules • Text to *VersaCAD* (translates imported text into *VersaCAD* format) • *VersaCAD* Spool (spools drawing files using a serial port XFCN) • Add Object (adds objects to *VersaCAD* files using numerical data) • Drawing Manager (Catalogs *VersaCAD* drawings by re-drawing on *HyperCard* card) • *VersaCAD* Database (same as above but allows data to be attached to drawings with *HyperCard* buttons) • Parametric Design (objects can be parametrically scaled. Very clever!) • Level Manager (allows naming and turning on and off layers)		

Graphic Data Input/Output — functionality

 MacArchitrion 4.21	 MiniCad+ 1.0	 Versacad 2.0	 Claris CAD 1.0v3	 PEGASYS I 3.0.3
Import and export PICT, including into 3D space as reference information. The new *Architrion II* interfaces with *HyperCard* stacks through an ASCII format for input and output of 3D geometry.	Imports and exports bit-map and object PICT, and ASCII.	*VersaCAD* provides a separate translator to move files into and out of alternate formats. File formats supported are IGES, DXF, and ASCII.	Very good. Import and export of bit-map and object PICT, *MacDraw II* files, and IGES and DXF with forthcoming translators.	*Pegasys* saves in *Pegasys* format, PICT, or DXF (IGES is promised by July). You can load documents saved in these formats, but because only one drawing may be opened at a time, you can't cut and paste between documents.

Graphic Data Input/Output — method

Save in PICT format or go through clipboard. Click icon to access tracing (reference information). Translate to ASCII format in integrated module.	Normal cut and copy to clipboard. Copy scale controllable during copy by setting paper scale. Does not include other CAD type file translation at present, but will work with *CAD Mover*, sold separately by Graphsoft.	Launch the *VersaLINK* separate application to translate.	Full normal Mac clipboard and scrapbook support, direct opening of PICT files, and of *MacDraw II* files with resolution retained.	Save in the format you desire, and open through the standard Open dialogue box under the Edit menu. Saving one document as a symbol and then opening it in the other document is a patchy way to merge two documents.

Graphic Data Input/Output — tools

• tracing icon • cut/paste at edit menu *HyperCard* stacks: • create domes, vaults, and even terrain models	• PICT • PICT as picture	• VersaLINK application	• opens PICT and MacDraw II files • copy, cut, paste, scaled paste • open as library • save as PICT plus optional IGES and DXF translators	• Open, Save as PICT • Save as DXF

Hard-Copy Output — functionality

MacArchitrion 4.21	MiniCad+ 1.0	Versacad 2.0	Claris CAD 1.0v3	PEGASYS I 3.0.3
Basic pen plotter support from a built-in non-QuickDraw driver—no background despooling.	Printing works very well and reliably wysiwyg with the ImageWriter and a wide range of Postscript devices, including Linotype printers. Plotting is supported through purchase of an additional application, *MacPlot*. Spreadsheets have postscript printing problems, see Non-Graphic Data Handling above.	*VersaCAD* supports the Apple ImageWriter, ImageWriter LQ and Laser printers. The manual contains an extensive list of pen and electrostatic plotters that are compatible with the software.	A typical good Mac QuickDraw program for output. Lacks some CADish functions, like printing an arbitrary detail from the middle of a drawing.	Good ImageWriter output; vector fonts leave laser printer output impoverished. Sheets automatically tile, or print an outlined area. Limited drawing set-up changes may be made: sheet width and height and drawing scale (only proportions, not units). Pegasys comes with its own plotting program. Support is offered for most standard plotters, with many settings available. The plotting program also includes limited communications functions for sending drawings via modem.

HARD-COPY OUTPUT — METHOD

Plot from within application.	Typical Mac stuff.	Typical Mac-interface for Apple printers. Drawing size and scale are established through the Plotter Setup dialog under the file menu. Plots from within the application or with *HyperCard* Stack.	Standard QuickDraw-to-PostScript chooser type laser printing, and plotting via *MacPlot* at no extra charge. Define the drawing size and page output order with the Drawing command.	Fully featured drawing set-up must be done to open the program and if you goof then (and it's easy with confusing scale set-up), you pay for it now. The *Pegasys Plot* program must be launched to plot—but it's standard too.

HARD-COPY OUTPUT — TOOLS

	• drawing setup • Output via ImageWriter or LaserWriter printers and most plotters	• Print command • *HyperCard* Stack	• drawing setup • Output via ImageWriter or LaserWriter printers and most plotters – QuickDraw based • *MacPlot* driver supplied	• Plot Program • Typical for the ImageWriter and LaserWriter.

DRAWING ENVIRONMENT — FUNCTIONALITY

 MacArchitrion 4.21	 MiniCad+ 1.0	 Versacad 2.0	 Claris CAD 1.0v3	 PEGASYS I 3.0.3
Unique and powerful in 3D, ordinary and marginally Mac-like in 2D.	Drawing set up is full featured but simple to execute with clear dialogue boxes and a wide variety of predefined settings as well as user customized settings for almost everything. Template documents preserve all these special settings. Windows work smoothly to handle multiple documents simultaneously. Under MultiFinder warnings of low memory usually come too late to be able to do anything but issue profanities and reset.	While *VersaCAD* is a full featured CAD program, with menus and icons to look like a Macintosh, the methods of object creation and thus working environment deviate considerably form standard Macintosh drawing interface and are unnecessarily difficult to use. Control of the *VersaCAD* working environment is determined by dialog boxes accessed through the Settings menu.	Superb. Classic Mac, and you can show or hide the various palettes as desired. "Stationary documents" provide for saving pattern sets and graphic templates, but there's no other way to adjust the default start-up drawing. The *Claris CAD* desktop arrangement follows the three main concepts to logically layout the icons. Given the large number of capabilities available, the tool layout is simple and uncluttered. The 0/0 location of the rulers can be set anywhere, even using the positional modifiers.	Mac windows with tools and menus. Scroll bars hideable. No rulers are available. Only one drawing open at a time. Grids are buggy—sometimes 1/12" yields 11, sometimes 12 grid spaces. The most frustrating thing for this user is the screen display of only one line width (0). This program works well under multi-finder; even with only 2MB of RAM! which has been great for this review. Decimal entry of scale can be very confusing. Defaults are easily set for layers (256), pen, & grid.

DRAWING ENVIRONMENT — METHOD

	Drawing parameters defined by dialogue boxes accessed by menu selection. Preferences set-up by dialogue boxes also accessed through menu selection. Window management is Mac typical. Scroll bars and rulers are missing, and keyboard shortcuts are few are far between.	Settings are made via dialog boxes. Sub-menus under the Preferences menu: Colors, Working Files and Save Positions. The Colors dialog allows the user to set the color of the Background, Grid and Selected Objects. There are pop up palettes for selecting among 256 colors, however, *VersaCAD* has chosen to display the current colors as numbers making it unnecessarily difficult to check the current settings. *VersaCAD* creates three working files for each document containing information on objects, symbols, and hatches. The location, type and size of these files are set through the Working Files Dialog. While access to this information may give some users additionally flexibility, it adds yet another level of arcane complexity to the software. By selecting Save Positions, the user can save the relative position of windows and palettes of the screen.	Pop-over choices appear when the mouse button is held down over a tool icon, revealing alternate tools. This allows for quick consideration of your options while drawing. If a tool is going to be used for repeated operations, double clicking locks it on. Palettes can be be hidden or shown. The column of positional modifier icons can be hidden, providing more screen for the drawing, and still allow access to them through the keyboard. Even the default methods and modifiers initially selected by *Claris CAD* can be redefined to your needs.	Tools are clicked, double clicked to lock them on. Menu items are selected by mouse or command key equivalents. All Drawing set-up information goes into boxes. The single line width display necessitates the Display Pen command, prompting the program to show all objects drawn in a specified pen. It is very frustrating to have to check this after object creation and manipulation; not during.

DRAWING ENVIRONMENT — TOOLS

	Drawing set-up dialogue boxes: • Scale, units, drawing size, tablet, thin lines, set grid, and set origin Preferences set-up dialogue boxes: • Rounded rectangle corners	Settings Menu: • Settings • Units • Levels • Drawing • Preferences • Colors • Working files	Floating information box for: • geometry checking • keyboard editing • area and perimeter calculations Select objects by type and layer Lock and unlock geometry	Drawing Set-up: • work defaults: layer, pen and style (dashed, solid) • line weight: display pen • Look-up: object info., layers used, score • Calculate: distance, area, point

	• dimension offset • constrain angle (line tool) • snap radius (pixels) • conversion resolution (smooth arcs to segments/ polygon conversion)	• Save Positions • Pause	Drawing, annotation and interface features can be customized and saved/reused as stationary files	• Coordinate display: (relative, absolute, polar, sheet units) • Grid size, Grid on/off • Cursor Rounding, Rounding on/off • Show Scroll Bars • Explain Error
DOCUMENTATION — FUNCTIONALITY				
 MacArchitrion 4.21	 MiniCad+ 1.0	 Versacad 2.0	 Claris CAD 1.0v3	 PEGASYS I 3.0.3
Very good tutorials, in both *HyperCard* and free-standing form. The reference manual is functional.	Discovering 90% of this program's capabilities is quick and easy. It's the remaining 10% that's a problem. After several hours on the telephone and sifting through errata on discs provided by Graphsoft one can usually sort out that what's actually not working is the manual.	The *VersaCAD* Manual is extensive and well written. As well as basic instructions, it is interspersed with helpful tips for using the software more effectively. Additionally, online help is available through a *HyperCard* stack. *VersaCAD* has a toll-free help line and an ongoing training program at it's Huntington Beach, California and Boston offices.	Clear, attractive doc's in a classic Mac style, complete, but short on the higher concepts that would help users move from drawing to CAD work.	Really excellent documentation, concise and succinct. I really appreciated the clarity, even if I didn't always like what I found out. The first page gives the help line number in bold, boxed letters—available free of charge (but not toll free) from 8 am to 5 pm Pacific time. I received excellent advice.
DOCUMENTATION — METHOD				
	The total manual is somewhere around 800 pages, but is very clearly and logically organized and illustrated., with a layout that corresponds nicely to what you see on the screen. The table of contents and index are clear and complete. A glossary of *MiniCad+*/ Macintosh terms is included. Graphsoft has promised a manual update as soon as pos-	Manual has approximately 250 pages, 50 of those pages cover the *HyperCard* Stacks provided.	The "Getting Started" booklet is 23 pages and covers the whole setup. The "Tutorial Workbook" with 86 pages explains how and what will be learned. With the on-disk exercises and the Workbook you will get off to a quick start. The "User's Guide," a 485 page reference manual, has three sections. Chapter 1, "Understanding *Claris CAD*" for basic concepts and tools. Chap-	The layout corresponds to what you see on screen. Read the manual. It is so clear, no other goodies were missed.

DOCUMENTATION — METHOD (continued)

	sible and has distributed errata on disc. The 3D portion needs work. There are some significantly confusing errors in the manual left over from *MiniCad 4.07*, e.g. how to use overall, chain, and partial dimensions.		ter 2, "Command Reference" covers all the menus. Chapter 3, "Using *Claris CAD*" goes step by step through typical operations. The User's Guide also has a complete index. An always useful item is the 10 page "Quick Reference" booklet and then there's the training video.	

DOCUMENTATION — TOOLS

• tutorial manual • reference manual • on-line tutorials • *HyperCard* help stacks	• manual	• *HyperCard* help stack • *VersaCAD* manual	• Reference manual, Quick Reference booklet, Getting Started booklet, Tutorial videotape, examples and workbook	• *Pegasys* manual • Customer Support

RAM USAGE

 MacArchitrion 4.21	 MiniCad+ 1.0	 Versacad 2.0	 Claris CAD 1.0v3	 PEGASYS I 3.0.3
Runs fine in 1MB for simple stuff, but large models want 2MB.	Suggested is 850K, but needs 1800K for a very large (1MB in size) drawing. 2MB are recommended with MultiFinder.	Minimum one MB for Mac Plus/SE version; 2MB minimum for Mac II version. More helps.	Asks for 1350K, but prefers 1850K for good size files. Opening a large (1MB in size) drawing required 2500K.	Asks for 512K, if you give it 800K it really screams along. On an SE you just don't ever run out of memory.

MACINTOSH SYSTEMS SUPPORTED

Will run on any Macintosh from the 512KE to the IIX.	Runs on Mac Plus and up.	The software will run in color on a Mac II with 2 MB RAM. A hard disk is required and an accelerator with a math coprocessor is highly recommended with the Plus and SE.	Runs on Mac Plus and up.	Pegasys I will run on any Macintosh from the 512KE to the IIX.

CAD Software Reviewers

Claris CAD & Mac Architrion

Kevin Matthews

Kevin Matthews is a Berkeley-based environmental designer and design systems consultant. He is currently consulting on CAD systems for the Superconducting Super Collider project in Berkeley and Texas.

Claris CAD & MiniCAD+

Steve Lukrofka

Steve Lukrofka is a San Francisco based CAD consultant , working with Bay Area architects implementing office automation systems based on Apple products. He has been involved in CAD for the past nine years and has experience on a wide range of platforms. Previously with GE Calma as Product Manager for architectural/facilities management applications.

MiniCAD+

Michael Buncick

Michael Buncick is an obscure American architect running his own computer graphics business, Dream Time Images, based in Marin. He also provides consulting services to architectural and CAD development clients in the San Francisco Bay Area, using *Minicad+* for presentation graphics, facilities management, and construction drawings.

MiniCAD+

Roger Moraes

Roger Moraes is a Brazilian architect currently working with Brewer, Fraser and Holland Architects, San Francisco. For the past 3 years he has been using the Macintosh as a tool for all phases of design and production, in particular, creating construction documents with *Minicad+*.

Pegasys I

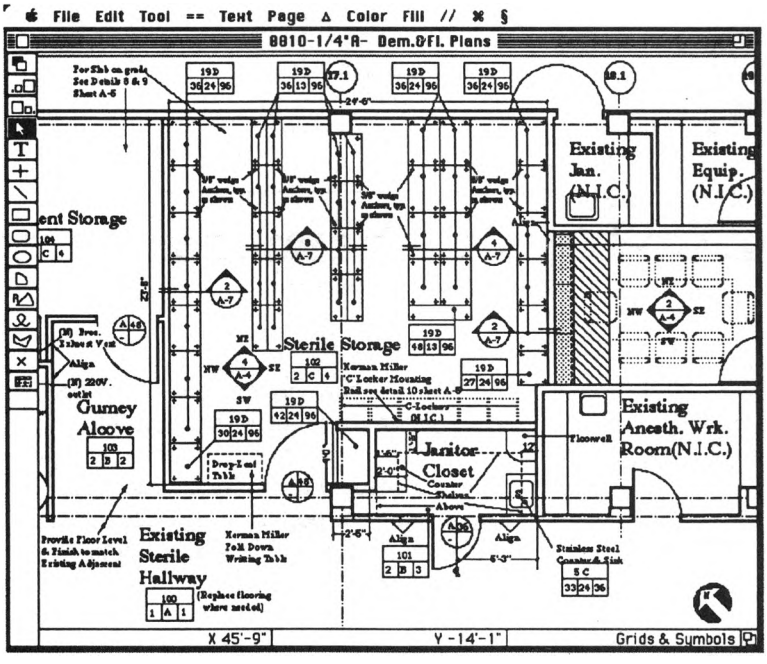
Margot Cantwell

Margot Cantwell is a practicing landscape architect. Margot uses her Macintosh and *Claris CAD* for a wide range of projects, from planning to detailing. She is founder and Chair of the BMUG CAD-SIG.

VersaCAD

David Alan Boyd

David Alan Boyd is an architect in San Francisco, California. His firm, David Alan Boyd ◊ Architect specializes in residential and small commercial projects. He uses the Macintosh extensively in his practice for graphics and information management. Mr Boyd is also a developer of *HyperCard* and *SuperCard* applications for architects.



MiniCad+ *drawing by Roger Moraes of Brewer/Fraser & Holland.*

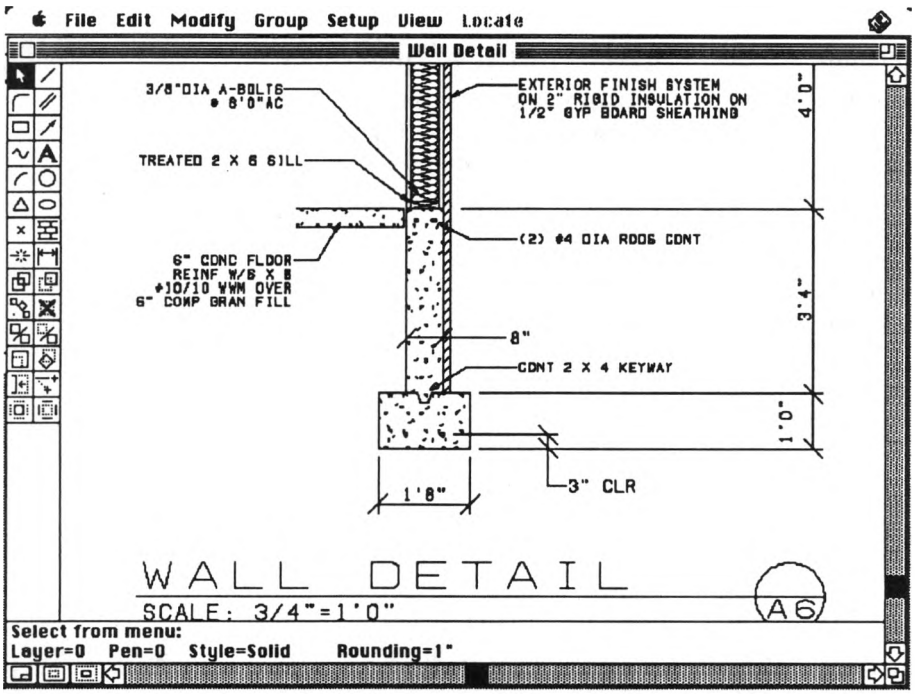
Glossary of CAD Terms

by Margot Cantwell, Steve Lukrofka, Kevin Matthews

Hopefully the following definitions will help you muddle through these reviews:

associative dimensions

Dimensions that automatically update their values when the associated geometry is modified.



Pegasys I *drawing showing dimensions.*

Bezier curve

A mathematically defined (polynomial) curve passing near but not necessarily through a set of given points. A Bezier curve represents an equation of an order one less than the number of points being considered — and turns the list of points into an adjustable, smooth curve.

BOM (Bill of Materials)

A list containing information as to the identification, number of parts, length, weight, etc., that is required to assemble one product.

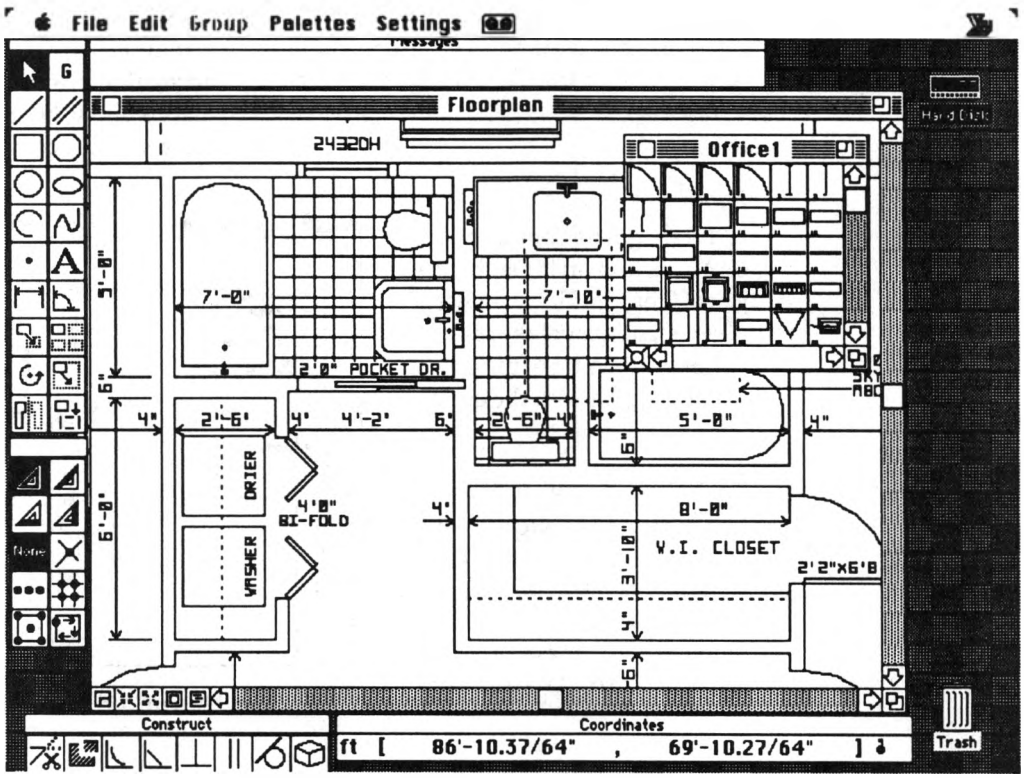
CAD (Computer Aided Design/Drafting)

Programs on the market for creating pictures can generally be divided into three categories: Painting, Drawing and CAD. In the Macintosh world the distinction between Drawing and CAD programs is currently indistinct, with vendors choosing their titles seemingly at random. We believe a CAD application can be identified by its inclusion of an accurate database (near floating point accuracy to be truly precise, see Database Precision) and the ability to place points with a precision substantially greater than is efficient or even possible by "normal" hand-and-eye methods. For more insight on our choice of this definition, please refer to *CAD on the Mac, Part I,* BMUG Newsletter, Winter/Spring, 1989. This definition leaves many so-called Mac CAD programs (such as *Dreams*) outside, and places many others (such as *MiniCad*) on the borderline.

The editors of this review are of the belief that in order for an environmental design office to efficiently produce drawings on the computer, CAD is essential. However, drawing packages have many advantages for promotional graphics, and the flexible interface of some gestural design applications may make them worth the bother of endless zooming to locate the points you need.

compound data structures

A term we are using to describe all "grouped" objects. Commonly CAD programs allow certain manipulations to be performed on primitives (base objects created by the tools, e.g. circle, square, round rectangle, line, etc.). However, once joined together with other primitives, the manipulation of the resulting compound data structure is determined by another set of tools and premises (usually less manipulation is possible). In CAD software, these compound data structures are commonly referred to as "Groups" (primitives joined together and perhaps named) and "Symbols" (grouped primitives that are named and stored in a "library").



VeraCAD *drawing showing Symbol Library window in upper right.*

cubic spline curve

A curve approximating a number of control points using a fourth order polynomial equation of the form ax^3+bx^2+cx+d. (see bezier spline).

cuboid blocks

Three-dimensional blocks, generally with exactly six faces (though faces can be very small) that can be manipulated in 3D.

curve smoothing

The process of curve or surface approximation using polynomial equations to generate a curve which passes near, but not always through a set of control points.

database precision

How precise the database of program is, i.e. how many decimal points it can remember. The available resolution of the database becomes particularly critical when transferring CAD data between packages, zooming in and out, and when printing at a larger size than originally drawn. Integer databases using only 16 bits to hold each coordinate (like the integer-based PICT file format used to move graphic data between programs) are not precise enough for these functions. Consider an $8^1/_2$x11 standard page that you wish to scale up four times to an E-size drawing. A program using a 16 bit integer database will produce a graphic with visibly wobbly lines. We believe that near single-precision floating point accuracy is the minimum acceptable database precision for CAD. Enjoy the drain on your RAM however!

floating point

Method of representing numerical values with exponents. The most common method for traditional CAD computations - less typical on the Mac. It is more precise than integer methods, where numbers are represented as fractions, but floating point numbers slow down internal calculations. (See **Database Precision**)

handles

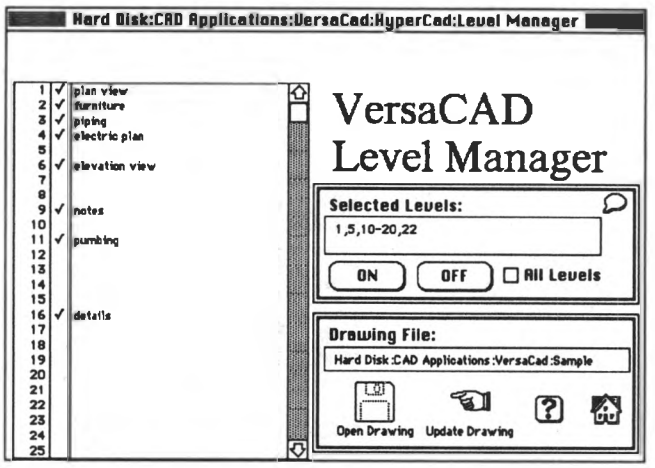
Highlighted control points on Macintosh-style graphic objects. They indicate selected objects, and they allow resizing and/or reshaping of the object when dragged with the cursor.

hidden line removal

The process of removing line segments hidden from view in a 3-dimensional solid object. Also refers to line segments removed from a wireframe display. (See also 3D wireframe)

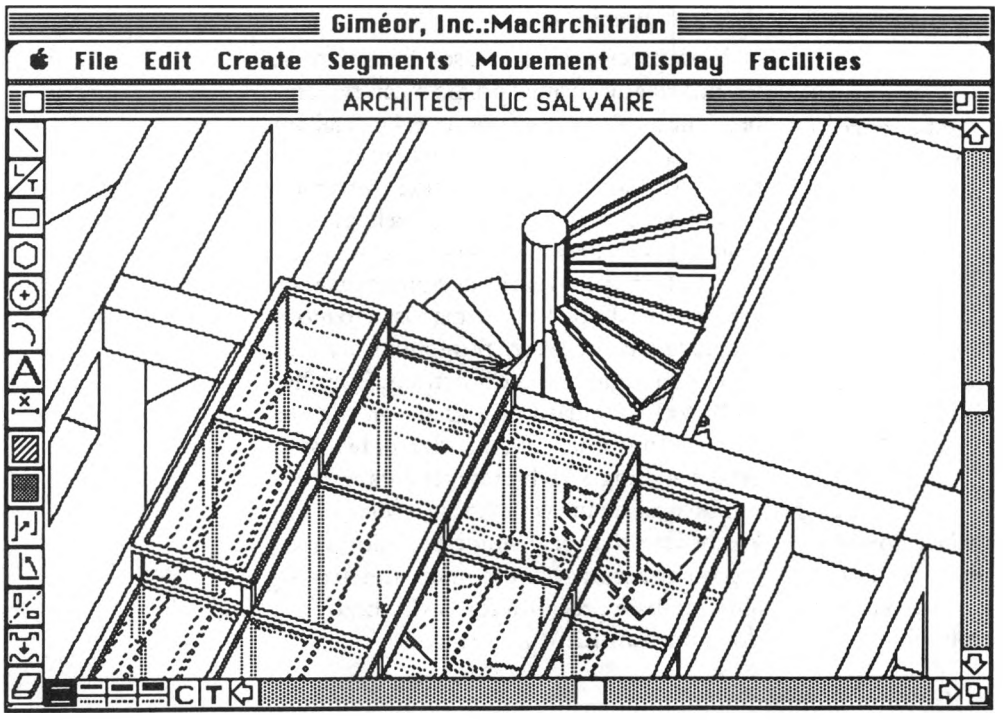
layers

The closest analogy to layers in the drafting world is pin bar mylar sheets, as used for overlay drafting. The idea is that different levels of information are placed on different layers. For example a base layer might be prepared and then electrical, mechanical, etc. information placed on separate layers above it. Layers allow different final drawings to share a (or several) common layers and thus avoid extensive redrawing. Many people use CAD layers to keep information separate for making global changes, or just so they can remember where things are (i.e. a layer of just text would allow a user to Select All and then change the font of all the text at the same time).



Versacad HyperCard *stack for layer managememt.*

View of Mac Architrion *model with hidden lines removed.*



Macintosh interface

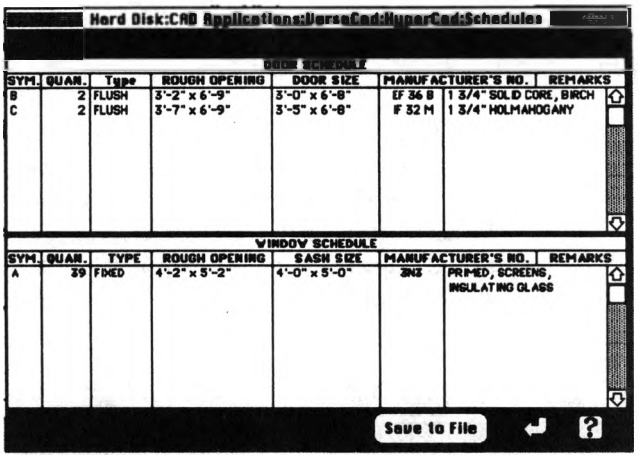
Everything you love about your Macintosh. What's commonly missing in CAD packages are Mac-style tools that apply to any selection (like your beloved "cut" that cuts out anything in any program) and wonderful on-screen graphics.

model (CAD)

A geometrically accurate three-dimensional representation of an object.

non-graphic data

A term we're using to describe all additional non-drawing related features a program might include, such as furniture unit prices, plant irrigation needs, or strength of structural members, to work with *HyperCard* stacks, spreadsheets, etc.


Hard Disk:CAD Applications:VersaCad:HyperCad:Schedules
DOOR SCHEDULE
SYM. QUAN. Type ROUGH OPENING DOOR SIZE MANUFACTURER'S NO. REMARKS
B 2 FLUSH 3'-2" x 6'-9" 3'-0" x 6'-8" EF 36 B 1 3/4" SOLID CORE, BIRCH
C 2 FLUSH 3'-7" x 6'-9" 3'-5" x 6'-8" IF 32 M 1 3/4" HOLMAHOGANY
WINDOW SCHEDULE
SYM. QUAN. TYPE ROUGH OPENING SASH SIZE MANUFACTURER'S NO. REMARKS
A 39 FIXED 4'-2" x 5'-2" 4'-0" x 5'-0" 2N2 PRIMED, SCREENS, INSULATING GLASS
Save to File

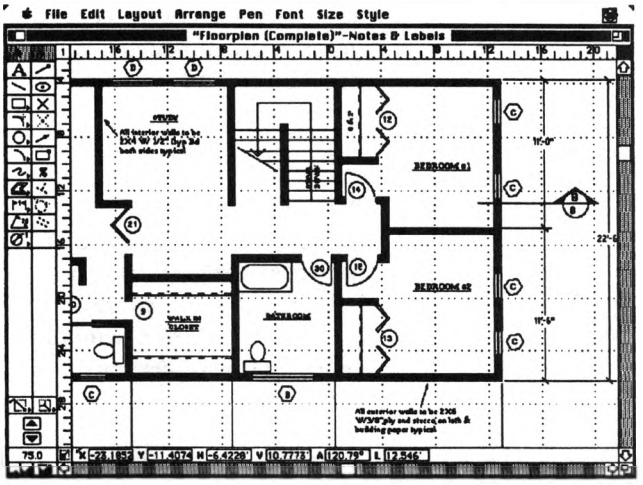
Versacad HyperCard *stack for non-graphic data.*

NOUN/VERB & VERB/NOUN drawing method

Most Macintosh applications use noun/verb syntax: an object is selected and then an operation is performed on it. This is a unique method in the world of computers. Many CAD programs arrive from other environments with their verb/noun bad habits still intact: a tool or command is selected and then the object to be manipulated is selected. Frustration sets in when performing multiple operations to an object — each time the appropriate tool is selected the object must be reselected.

perspective projection

The simulation of distance by representing parallel lines converging at a vanishing point.



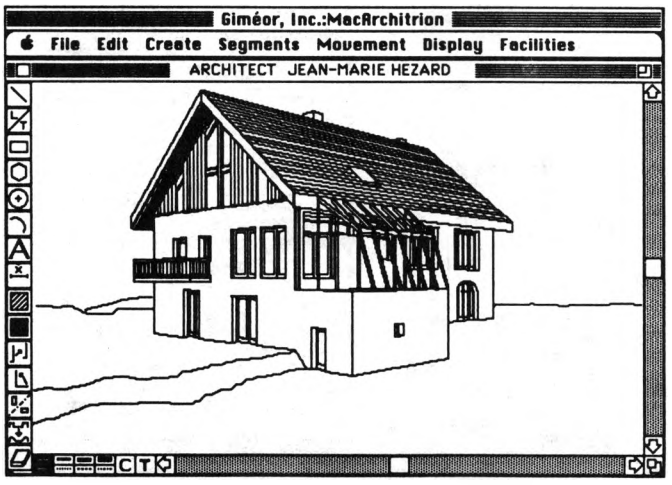
Claris CAD *screen showing* ***snap tools.*** *(Second column of icons from the left.)*

positional modifiers

Also refered to as "snap tools", see below.

snap tools

Snap tools are also known as "positional modifiers", "hit tools", and probably many other names yet to be invented. These tools are the essence of our definition of CAD. While many programs provide "snap to grid" and type-in coordinates for accurate placement of objects, both are extremely limiting. Positional modifiers (typically activated by a key held down in conjunction with a mouse-hit) are used to accurately place an object to a vertex, end-point, mid-point, etc. with only an approximate mouse-hit. They may



Exterior perspective view of Mac Architrion *model.*

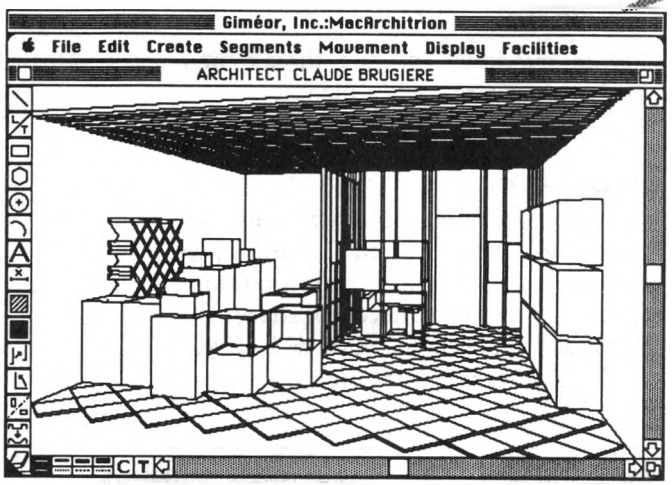
also be used to construct tangents, perpendiculars, and parallels, or find invisible intersections.

Symbols

Symbols are objects that have been turned into a symbol through a procedure and are then stored in a symbol library for later placement into the drawing.

vertex (vertices)

A corner or point of a polygon or freehand line.

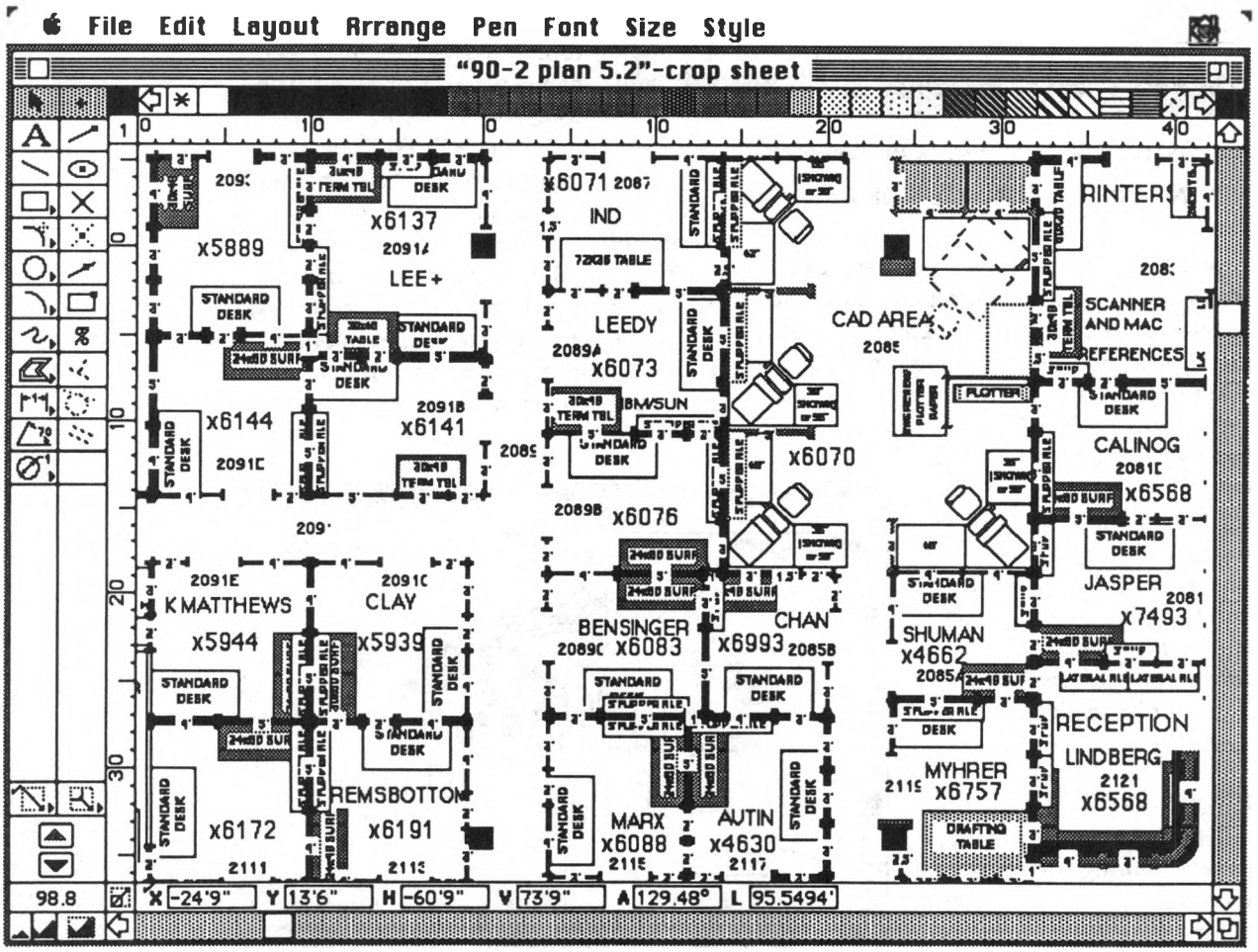


Interior perspective view of Mac Architrion *model.*

X,Y,Z coordinates

Recall your coordinate geometry. X is the horizontal axis on your screen, Y the vertical. When working in 3D, Z is the axis that goes straight up and down, when you lie the X & Y axes on their sides. Got it?

Zoomed in view of Claris CAD *floorplan created by Kevin Matthews.*

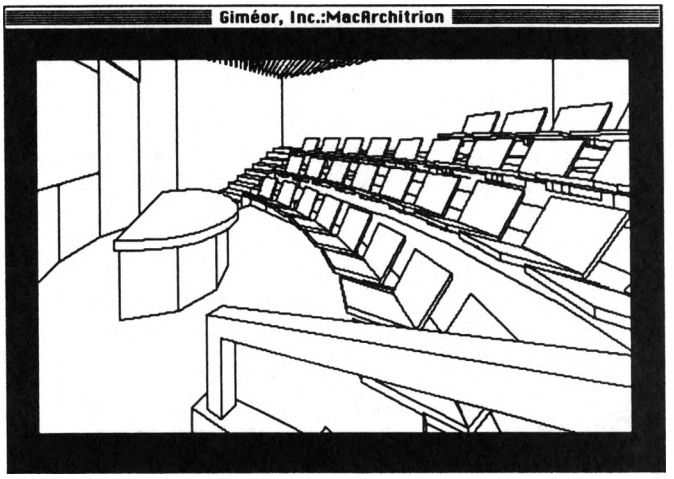


zoom rectangle

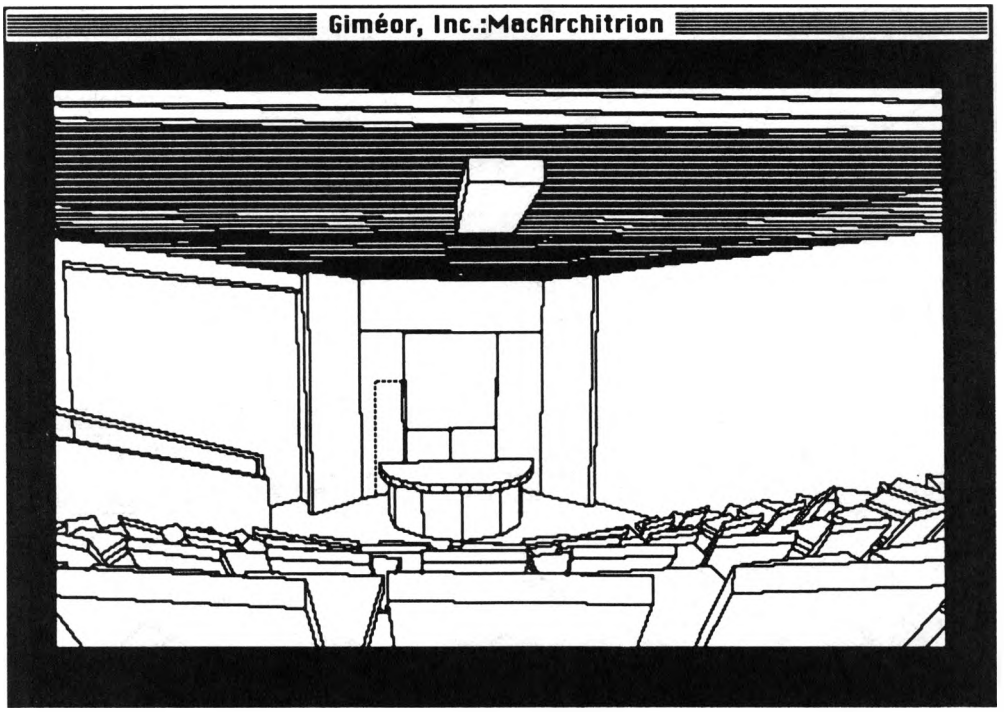
Arbitrary zooming. A box is drawn by the user around an arbitrary area, which is then redrawn to fill the entire screen area. This feature is wonderful and becoming an increasingly popular addition to software packages.

3D

We have defined a 3D program as one which allows full creation and manipulation of objects in a three dimensional mode. Many programs claiming 3D really only provide a 3D viewing capability (with at most some very limited manipulation); you can see the objects but cannot transform them. Buyers beware. Also, to add to the confusion, some 3D programs allow what amounts to a 2D "snapshot" of the 3D model to be taken. This snapshot is actually like a photograph of the model, and it can be manipulated, but only as a 2D object (like drawing lines on a photograph), not as a 3D model. Confused yet?



Two interior perspective views of a Mac Architrion *model showing two different viewing orientations of the same room.*



3D dithering

Dithering is a second step in three-dimensional rendering (although many packages provide rendering without dithering). Dithered surfaces have dot patterns that vary in density to represent the changes in light intensity falling on that surface. With 32-bit color, dithering is unnecessary.

3D rendering

Rendering is the shading of a three-dimensional object to indicate the location of each surface relative to a light source. Often the user is able to adjust the position of the light source. Note that using basic methods, rendered surfaces still appear flat, as each surface is rendered uniformly. See also 3D Dithering.

3D surfaces

Bounded planes, which might (for example) represent one side of a cube are often created by a tool which places a plane, similar to a piece of paper, up against a wireframe model.

3D sweep

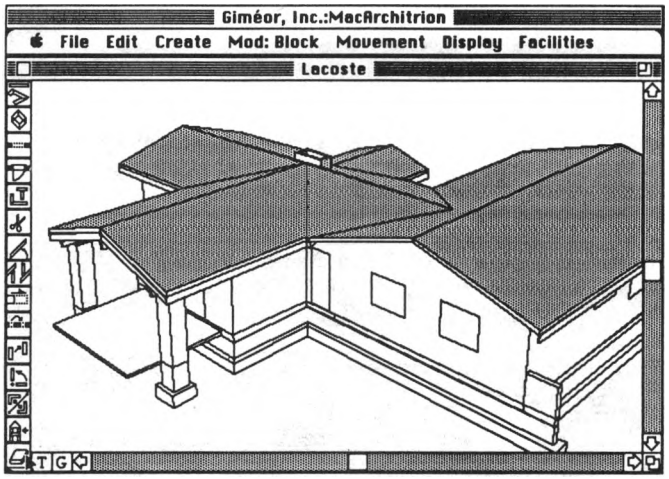
Rotates an object about an axis and connects the duplicated objects into a 3D surface.

3D viewing orientation

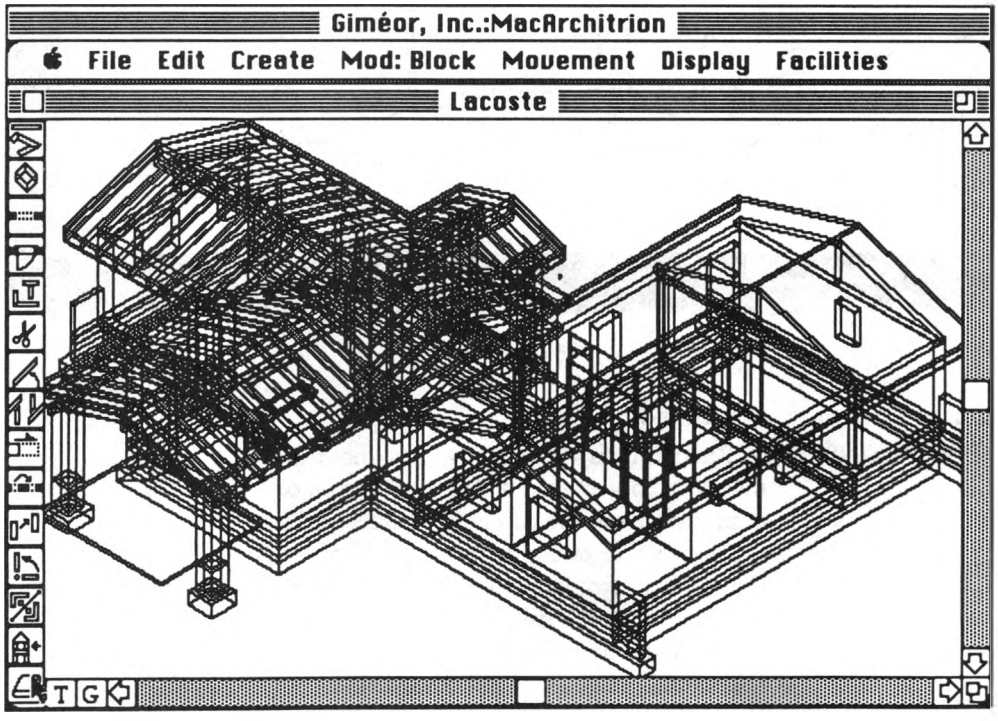
There are two methods of three-dimensional viewing. Either the object moves and the viewer remains stationary (most useful for mechanical design) or the viewer moves and the object remains stationary (less common in packages and most useful for environmental designers).

3D wireframe

The representation of three-dimensional objects as a wire model. For example, a cube would be shown as 12 lines, drawn along each edge of the cube. Objects displayed in wireframe show all lines, resulting in an extremely confusing representation of even a relatively simple model, unless hidden lines can be removed with an additional operation (several applications include wireframe models without hidden line removal).



Two exterior views of a Mac Architrion *model, above with hidden lines removed and below a wireframe view showing all lines in the model.*



Words

Bible Translation: Down-Under Macs

by Michael Hore

Probably the first thing to strike visitors to Australia—or even locals, for that matter—once they leave the main population centers along the eastern and south-eastern coast, is what an empty place it is. We have around 14 million people in a country the size of the continental United States, and even most of that population is concentrated in a relatively small area. Australia is supposed to be one of the most urbanized countries in the world, in terms of the percentage of the population that live in cities, but that just shows how misleading statistics can be.

Much of the land area is arid, and it is possible to fly in a small plane for hours and see very few signs of human habitation at all. In the place where I live and work, in the far north—Crocodile Dundee country—let's just say that if anyone is misguided enough to go anywhere by road, they have to make sure someone knows where they're going. If their vehicle breaks down, it could be weeks before anyone else comes that way. Our characters mightn't be as outrageous as in the Dundee movies (some of them aren't, anyway) but the general picture those movies present of this part of the world isn't really too far off the mark. We don't even have a telephone out here.

The history of British settlement of this country is a fairly typical example of colonialism. The indigenous Aboriginal people were pushed off their land by settlers who couldn't or wouldn't accept that they were fully human at all. After all, they didn't cultivate the land, or even live in houses. The Aboriginals, likewise, could not understand or accept the newcomers' values. The white settlers might just as well have landed in spaceships from Mars. When it all boiled down, the thing that really mattered was that the newcomers had guns. Not a pretty picture at all. As British settlement progressed, there were occasional expressions of sympathy for the Aboriginal people from those in high places. These sentiments were completely ignored at the grass roots level. Expressions such as systematic genocide are probably not very exaggerated. Maybe what went on was not centrally organized, but the end results for the people most affected were about the same.

Things have improved somewhat since then. At least many Aboriginal groups now have rights to their own land. Those fortunate to live far away from the initial white settlements have even managed to keep much of their own language and culture. The language groups are very small by world standards (they always were). Generally less than 1000 people speak each language. It's among one of these groups that I am working, at Bible translation. Numbulwar is a very small town of about 500 people, most of whom speak a horrendously complicated language called Nunggubuyu.

It may seem strange that yours truly, a computer science graduate (that was back in the days when computers filled whole rooms) should end up doing this kind of work. This inevitably comes down to world view and philosophy of life. There's a little screed I've seen that has a caption "This is John 3:16 in many languages of the world" underneath a blank white space. That about sums it up. Anyway, I threw in a promising (?) career in the computer industry, went to theological college, and eventually arrived here, having given up computers for good. This was in 1976, three years before personal computers arrived on the scene (my talent for foreseeing the future has never been particularly impressive).

PCs, once they arrived, were obviously going to make a big impact on our work. My first PC wasn't a Mac—this was 1980—but came from another well-known Corporation manufacturing Digital Equipment. It boasted a vast 56K RAM, nearly occupied a

whole desk by itself, and sounded like a vacuum cleaner. It picked up dust like one, too. I used it to keep all my files of translation, and also my dictionary. It provided sterling service for a number of years, but by early 1985 I was looking for something more modern. A friend of mine had recently bought a 128K Mac, and when I saw it I was convinced that here was my next computer. A colleague named Steve Etherington, working in translation in another language group, was at that stage looking for his first computer. I suggested the Mac. Its big plus for our work was its sophisticated handling of multiple fonts and point sizes. The Aboriginal people have no history of reading or writing, and even today not many can read fluently. So we needed to be able to print in a big point size, but then revert to normal for our personal mail etc. Steve also wanted to be able to do page layout for early reading books, with illustrations. Steve and I soon found out that the Mac could handle all this, and that when we wanted better quality printing for a larger publication, the LaserWriter would fill the bill. Our local Apple dealer, in Darwin, was happy to let us use his LaserWriter whenever we needed to. ("Local" is relative—Darwin is 500 miles from here.) So we went ahead, succeeded in convincing our mission organization that the Mac was the way to go, and Steve had his 512K Fat Mac. Six months later we found that everyone else was doing the same thing, and that what we wanted to do with the Mac had a new name—Desktop Publishing. I didn't foresee that, either.

I didn't buy a Mac myself straight away, as I already had my DEC computer, and I wanted double-sided disk drives. But I went ahead as soon as the Mac Plus came on the scene. I then had to decide on a development system. But first, a bit more background.

A large percentage of the Bible translation in the world is undertaken by a mission known as Wycliffe Bible Translators, which is associated with an academic organization called the Summer Institute of Linguistics (SIL). They have a branch working among Australian Aborigines, and while I don't belong to this group myself I have a good working relationship with them. They were standardizing on DEC at the time, and I obtained my first computer through them. They also had some special-purpose software available for our sort of need.

In Bible translation, most of what we use our machines for is straightforward word processing. We also have dictionaries of the languages we're working with. These are basically databases, but with some unusual features. The record length is highly variable. A dictionary entry could be one line of text, or several pages. As well as this, we have to be able to reverse the dictionary. That means, if the dictionary is alphabetized according to the language, we need to be able to pull out the various English meanings and re-sort on those, so that we can look up a word according to its English meaning. Now areas of meaning of words in different languages never correspond nicely, so that one language word may need five different English words to cover its meaning, and several of those five could appear under different language words as well. The dictionary reversal process has to be able to handle all this, and produce readable output. On our DEC machine, I had custom programmed this particular job. My dictionary was simply a set of ASCII text files, with each field uniquely marked—for example, each new language word entry was preceded by three carriage returns, and each English word I wanted to be listed in the reversed dictionary was preceded by three spaces. It wasn't as elegant as a structured database, but it did have the flexibility we needed, and it worked. SIL had a standard marking convention, and although my markers were different the principle was the same. I had done the programming in a unique text processing language developed within SIL. It was interpretive, slow, and cryptic, but it got the job done. If I was doing it all again I would probably use Hypercard, which is interpretive, slow, but not so cryptic.

Because SIL didn't want to know about the Mac at that time (they were starting to go down the IBM road) Steve and I were on our own. In 1986 there was no commercial database for the Mac that could do just what we wanted, so I decided to port my code across from the DEC machine, reprogramming in whatever language was suitable. It used to take two hours to do a dictionary

reversal, so I hoped that with the greater speed of the Mac I could do better. That brings me back to my choice of development system. Now Mac owners have a reputation for not going along with the crowd, and I didn't even go along with most other Mac owners. I chose *Neon*.

So what's *Neon*, you ask. It's an object-oriented development of Forth. In the last 12 months of using my DEC, I had come across the Forth language, and rapidly became a Forth freak. People always seem to have strong opinions about Forth, one way or the other, and I'm no exception. It appeals to my hacker mentality, I suppose, but also has a simplicity and elegance which may not be immediately obvious if you don't know what to look for. Badly-written Forth programs can be totally unreadable, but if well-written they can be very readable, once you get used to the postfix style, which doesn't take long. In my thoroughly biased opinion, good Forth code is not only readable, but can express a problem solution with a directness and simplicity that I haven't seen in any other language. It's also interactive, which makes incremental development and debugging a pleasure. End of sermon. So whatever I used was going to have to be a version of Forth. There were a few Forths available for the Mac in 1986, but *Neon* appealed to me because of its object-oriented features. *Neon* has now been discontinued—a pity, because I still find it a very effective development system. It must surely have been one of the most undersold products for the Mac. Its technical brilliance was completely torpedoed by a virtually nonexistent marketing strategy. It had a few rough edges, as with any new product breaking fresh ground, but these were largely resolved by version 2 which arrived later in the year. I found it a straightforward job to reprogram my dictionary reversal in *Neon* (thanks also to the Mac's Memory Manager, which made much of the hack work with strings easy). My reversal time came down to around 25 minutes. When *Neon* version 2 arrived with its assembler, I was able to recode some of the critical loops in assembly code, and the time came down to 8 minutes. The era of the coffee-break dictionary reversal had arrived.

Neon
Kriya Systems, Inc.
(discontinued)

I was using *Microsoft Word* as my word processor. The main advantages it had over *MacWrite* for my work were the ability to have multiple documents open, and glossaries. The multiple document capability is essential in Bible translation. We frequently need to be able to cross-check our current translation with what we've already done somewhere else, and also to look up our dictionary. Often we need to have several entries in the dictionary accessible at once. And the glossary feature is a great time saver, since we have a large number of long words that occur frequently (in the language spoken here, the word for "people" is *warra-wurruwurruj*, for example).

I had originally thought I would keep my dictionary as a set of ASCII text files. However some investigation of *Word* documents with *FEdit* revealed that *Word* (this was still

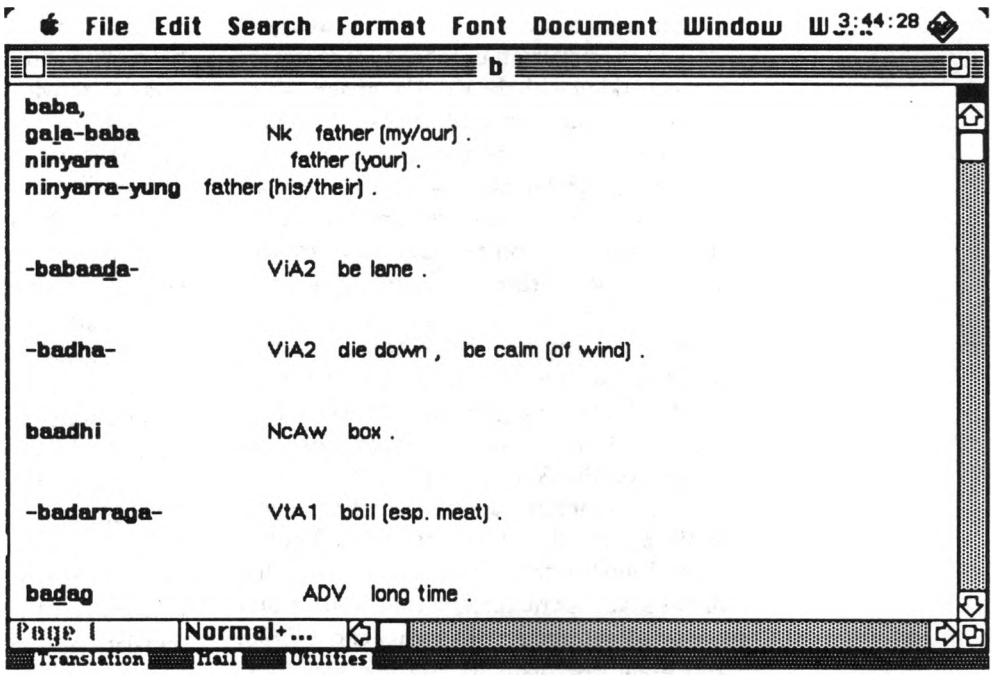


Figure 1: DIctionary

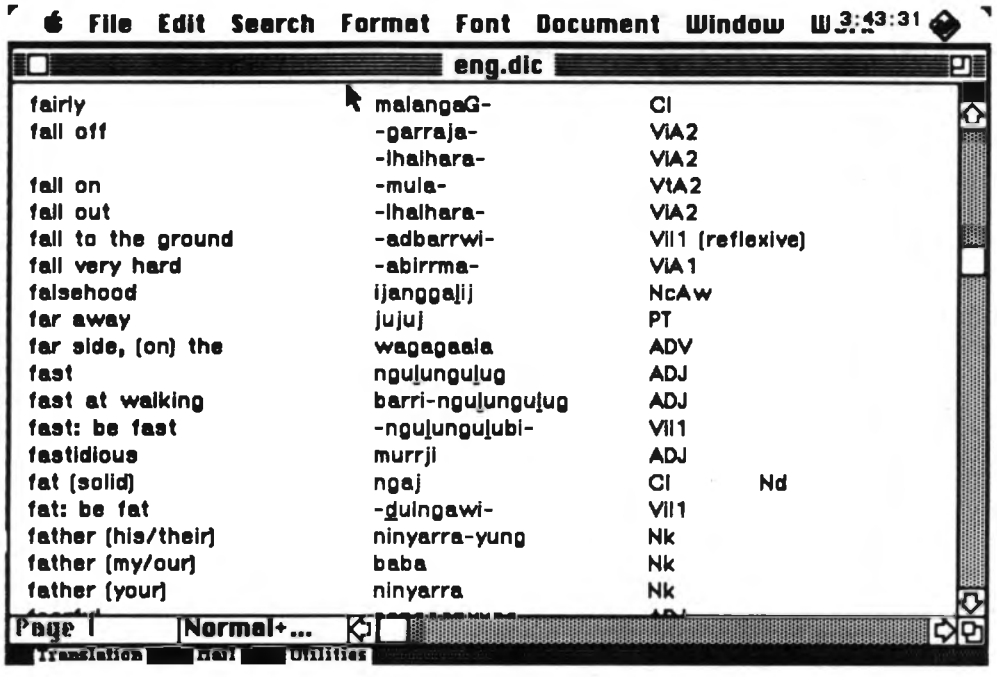


Figure 2

version 1.05) kept all the text of the document together in one chunk, and it always started at the same place. So I decided to make my dictionary look prettier by including formatting, and make my reversal program read the text out of the formatted *Word* documents. (See figures 1 and 2.)

While all this was going on, others were becoming interested in the Mac as well. Just down the track from us (about 50 miles) is a team working with the Kriol language, which is the way the word Creole is spelt in their spelling system. (Linguistically, a Creole is a new language which arises out of contact between two or more groups who can't understand each others' languages to start with. The social disruption among Aboriginal groups brought about by white settlement has given rise to a Creole language which draws most of its vocabulary from English but whose grammar functions like a traditional Aboriginal language.) Because some 20,000 Aboriginals speak this language, our friends plan to translate the whole Bible, eventually. The computer buff in this team, John Sandefur, became very interested in our Mac experience, and two months later they had acquired a Mac Plus and HD20, and grandiose plans to produce their next interim edition (about a third of the whole Bible, 1600 pages) entirely by desktop publishing, including a large number of 300 DPI (dots per inch) scanned illustrations. Well, the incredible thing is that they did it, and in quick time too. This was using *PageMaker 1.5*. An absolutely amazing effort. As far as I know nobody had attempted anything on this scale before (remember, this was around the end of 1986).

In the meantime, my friend Steve had found an unusual upgrade path for his Fat Mac. He was going to Sydney on leave, so he air freighted his Mac down, packed in its original box, which as you all know is subtly marked "Macintosh" on the outside in large letters, with pictures just in case you can't read, or think the contents might be edible. Strange to say, it never arrived. Our mission organization had thoughtfully insured it for the original purchase price. Steve collected the insurance, which was by now enough to pay for a Plus and external 800K drive. Steve's disks were with his personal luggage, so he lost none of his data. Actually he didn't do all this deliberately, or so he says. I wouldn't necessarily recommend this strategy for everyone, since the airline companies may not be as cooperative, although Apple has certainly done its part.

The advent of desktop publishing had raised another need. So far I had followed the standard SIL method of marking translated Bible passages, using backslash codes for marking the various items in the text — \v for verse, \c for chapter and so on. This way everything was uniquely marked, and could be automatically processed for typesetting or whatever. But on the Mac, we had WYSIWYG. I had half a New Testament of translation done the old way (with hard **carriage returns** at the end of every line!!), and others were going to be in the same

situation. We needed a way of putting formatting in automatically. As the default Mac guru (there were no other candidates within 1000 miles), it fell to me to do something. So I went back to Fedit and hacked out *Word*'s document format in more detail. I had thought of using MacWrite, whose document format was publicly available. Also MacWrite documents can be imported into *Word*. But *Word*'s format turned out to be simpler, would you believe (this was still *Word 1.05*). So *WordFormat* was born. This may well prove to be a useful program to anyone who wants to make systematic context sensitive changes to Word documents, including formatting and styles. Maybe it will be available on a BMUG disk by the time you read this.

Life was then relatively straightforward until the appearance of *Word* version 3.0x. I don't wish to add to the megabytes of words that have flowed on the pros and cons of this product, except to say that with all its faults it was for me a big improvement on version 1.05. In our situation the vastly improved document saving performance was just about worth the upgrade price alone, given the fact that in a place like this you never know how long the electric power will last, so you need to save after every few lines of typing. The better performance required a much more complicated document format, however, and hacking out enough of this format to get somewhere useful was no joke at all. I just hope that *Word 4* hasn't changed the document format significantly yet again.

That pretty well brings us up to the present. I shouldn't, however, leave readers with the impression that what I have described is anything like the state of the art in the use of computers in Bible translation, and especially in the use of Macs. There has been some interesting work done in Hypercard, for example. This is an ideal medium for the description of the grammar of a language, since natural languages often defy a strictly logical definition—that could be said for some computer languages as well, but we won't go into that here. For dictionary work, as well, Hypercard has all sorts of possibilities. Cross-references could be accessed with the click of a button. Plants and animals could have pictures included. The pronunciation of each word could be digitized and spoken on request. The imagination can just run wild on this sort of thing. The main reason I haven't done anything in this direction in my own work is that I was already too far down the track when Hypercard came on the scene. I have a system that works, and it simply isn't worth the investment of time to start again from scratch at this stage.

WordFormat

Check with BMUG for availability.

Readers might be interested in a few random comments of a more general nature, about life with a Mac in this part of the world.

Macs appear to have an excellent track record of reliability, in a rather extreme climate. Maybe the Amazon jungle is more humid, but not much. We frequently have temperatures over 30 degrees C (84 deg. F), and humidity over 90%. I only use my air conditioner when the temperature goes over 28 deg. I use a MacChimney. We have found the biggest problem is dust crashing floppies. Steve, working in Darwin, has had some problems with lightning. Around Darwin, the flat landscape and prevailing winds somehow combine to produce one of the premier spots on the planet for thunderstorms. An international meteorological conference was held there a year ago for that very reason. The storms are really awesome. You can get lightning strikes between two clouds 6 miles directly overhead (it makes an eerie hollow sound) when there isn't even rain falling on the ground. And the sight of a large storm in the distance at night, with perhaps one flash a second lighting up the whole sky, has to be seen to be believed. Anyway, anyone operating a computer in Darwin really needs a surge protector. Any of those lightning strikes hitting anywhere on the town power lines could easily cook the inside of a Mac (or any other computer, for that matter, if anyone really cares). Steve has a surge protector, but once it cut off the power to his hard disk just when the directory was being rewritten (that is, the wrong time) and he had to make a trip to the dealer to get his disk sorted out. Out where I live, our coast faces the opposite way to Darwin, and we hardly get any thunderstorms at all.

MacChimney

Silicon Comforts

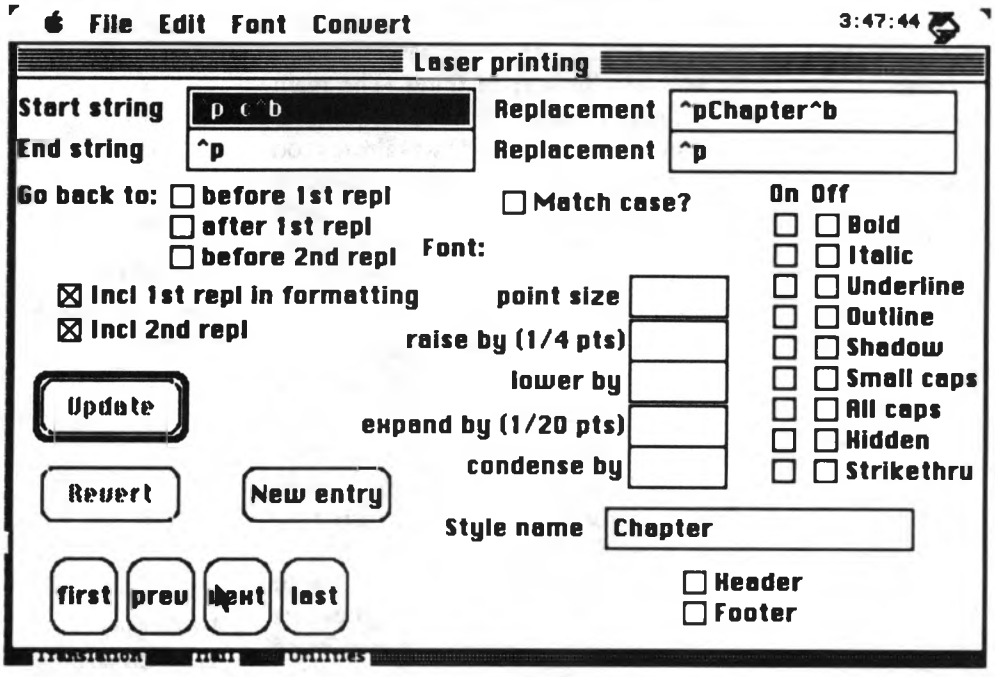
2560 Bancroft Way, #117

Berkeley, CA 94704

415-658-9543

There was one occasion when I had a tribe of ants try to make a nest in my Mac—this particular species (called *destructor* I believe)

Word 4.0 **did** *change the document format significantly again!*



are small, but are notorious for eating everything in sight, especially electrical insulation. Several house fires have been blamed on these little monsters. But I was able to remove my Mac from the ant trail and eventually those inside came out, leaving my Mac none the worse for the experience—I hope...

I have a 30 meg Easy Drive hard disk, which has given no trouble whatsoever for 18 months. In a place like this, without a telephone, trouble is one thing I can do without.

For getting hold of software, sad to say, I am now giving local suppliers a miss. Australian software prices are far too high—generally double their US counterparts, even after allowing for the exchange rate of the Aust. dollar. An article in an earlier BMUG newsletter detailed the reasons for this: customs charges, tax, and especially the fact that local software distributors have to provide customer support, due to the cost and inconvenience of phone calls to the other side of the world. US software suppliers apparently are unwilling to make allowances for the fact that these distributors are saving them money by providing this support. The purchase price of the software must contain a component to cover the local (US) support that the software firms provide, yet they give no corresponding discount to foreign software distributors. If any of them are reading this, might I remind them that there is actually a good deal of the world outside the USA, and some of us are actually crazy enough to live here. We even buy software, now and again, and would buy more if it was cheaper. We may be only a tiny fraction of their market, but how is that ever going to change with current pricing policies? Anyway, as I have no use for software support of any kind (no phone, and I have a programming background), I usually resort to one of the US mail order outfits. These have given excellent service. They at least seem to realize that the rest of the world exists.

One slight disadvantage with this approach is that I don't often get informed of upgrades. But I'm beginning to think that everyone else has this problem too, and that it isn't just me. But when I do order an upgrade, I had better remember to specify air mail postage—yes, it's true, even with a Mastercard charge, I find that some clowns send their products by surface mail, if I don't remember to tell them otherwise. Surface mail to here takes about two Apple system releases. Sometimes I get away with it, and the upgrade still works by the time it arrives. All right, that was slightly unfair to Apple—let's make it one system release.

Well anyway, I should give credit where credit's due. Notable exceptions to the last paragraph are Altsys (makers of *Fontastic Plus* and *Fontographer*) and Central Point Software (*CopyIIMac*). These companies are on the ball. I always get timely upgrade information from them. Even SuperMac seems to be getting their act together, after an abysmal period last year.

Letraset now distributes their own software locally, which should have improved the service and decreased the price; yet I had to remind them that I was a registered user of *Ready,Set,Go!* before they told me how to upgrade. (By the way, why do we have to have punctuation marks within product names? The next stage of NewSpeak?) Also, the upgrade price leaves no doubt that Letraset firmly adheres to the principle that a customer perceives a product's value in direct relation to its price. What started out as a low-cost alternative to *PageMaker* is still an excellent alternative, but hardly low-cost any more. There's no doubt Desktop Publishing is now the province of big corporations with big bucks to throw around.

Microsoft have now launched their Communique club which according to the blurb, should offer magnificent upgrade service for a A$25 per year charge. Like $30 off each upgrade, would you believe. If I were cynical I'd say that this new offering is only the equivalent of what other software houses offer free, and they'll probably load their non-member upgrade price by $30 so they can give members a "discount" of the same amount. But I'm not cynical, am I?

On the occasions I need to use Assembly language, I find Dave McWherter's *McAssembly* to be a great program. For a shareware fee of $40 it is only a fraction of the cost of other assemblers, but it is of high quality. Its macro facility might be somewhat less sophisticated than some, but it can do everything I need it for. It's fast, and has that extra attention to small details that really counts. Here is a programmer who knows the Mac intimately, and knows what other programmers need. As if that wasn't enough, in 12 months of fairly heavy use, I can't remember running into a single bug.

I've also started to use Dave's *Vantage* DA for text editing. Here is another program with the McWherter touch of class. I recommend it wholeheartedly. Very occasionally I've run into a bomb, but this is version 1.0, and most 1.0 releases from even the most reputable companies are usually about Beta quality. Vantage is far better than that, and I'm sure the next release will be even better. There is a Shareware version called *McSink* (it has everything in it except the kitchen sink, get it?). This has a few of the more sophisticated features missing, as well as the kitchen sink, but will give you a chance to try before you buy. I think you'll like it.

Paying shareware fees to the USA is a problem, because of the need for foreign currency exchange. Large commercial concerns all offer Mastercard facilities, but of course shareware authors normally don't. If I get an overseas draft from a bank, they charge $6 for the privilege. So with our dollar running at about 80 cents US, if I have to pay a $10 shareware fee, I will probably have to pay $20 Australian. One day I had a whole string of small shareware fees to pay, and the teller was most amused, as he proceeded to charge me $6 for each one. I wasn't. One well-known author, when I sent an upgrade fee to him and mentioned this problem, wrote back just the words "Send cash". I'm sure this would break somebody's regulations somewhere, but I'm not sure whose. I know the banks wouldn't like it.

How do I keep up to date with the Mac world? As we have no telephone here (just in case you'd forgotten), bulletin boards are out. I belong to AAPDA (Australasian Apple Professional Developers' Association). And there's BMUG, of course. And I read Australian MacWorld, as do most other Mac owners in this country. All this is very meager compared with on-line access to the world, but at least I don't have to worry about computer viruses.

They say maybe we'll get telephones here later this year...or next...

Hebrew on the Macintosh

by Ari Davidow

Many years ago, back when the Fat Mac was a big deal, I put together an IBM compatible clone for my father, who lives with the rest of the family in Israel. Since Hebrew software was clearly relevant, I asked about on BIX if anyone knew about such software. The sole reply was from a Macintosh user who, with the typical tolerance of Mac users, sneered that he had an inexpensive Desk Accesory that allowed him to use Hebrew with all of his normal Macintosh applications.

What he didn't tell me was that the DA in question, *MacInHebrew*, was notoriously buggy and marginally useful. And like most of us, I just assumed that a powerful computer with a great visual interface like the Macintosh would naturally prove to be a mecca for people who wanted to write in many languages—even one that goes from right to left like Hebrew.

With no clear idea as to what was really out there, last year we purchased a Mac to pursue quality Hebrew typography. I just knew that the Macintosh was where all of the action in Hebrew writing and desktop publishing was at. A year later, I'm not convinced that there there are likely to be tools on the Macintosh in the near future that are anything as flexible and/or powerful as those which are commonly available on the PC for editing Hebrew (on neither machine is there any noteworthy Hebrew/English-compatible DTP software). There are some good tools, though, and there are even a few areas where the capabilities of the Macintosh put it far ahead of the PC environment for the task.

The first problem, and the only major problem as far as most Macintosh users are concerned, is the fact that Hebrew goes from right to left. Since most people in this country using Hebrew need to mix it with English as well, there is no quick fix available such as simply changing a few bytes of code that will hardwire everything into moving right to left. The problem is further complicated by the fact that Apple was very, very slow in standardizing text-handling routines—stuff that is now taken care of by something called the "Script Manager." This was a task that was significantly harder on the Mac simply because, unlike the PC, the Macintosh is designed to display real fonts—not the monospaced, typewriter imitations that one commonly sees on the PC. As a result, not only have powerful word processors been slow to come to the Mac market, but when they did arrive they were never script-manager compatible—at best there is only partial compatibility.

About two years ago Apple released its *Hebrew Information System (HEIS)*. This was an operating system designed to allow Hebrew word processing on the Mac. Rather than force users to go out and buy special programs that could handle Hebrew and English, the *HEIS* was intended to allow the user to make use of any Macintosh program in a multilingual environment. And, to some extent, that works. Many non-word-processing applications such as *4th Dimension* or *Excel* are entirely script-manager compatible, and work under *HEIS* flawlessly—with the added benefit that one can click on an icon, or select a Hebrew font, and switch painlessly between Hebrew and English. The same is not true of any of the major word processing or DTP programs.

In most cases, as with *WriteNow* or *Microsoft Word*, there is partial compatibility. This means that if you use either program under *HEIS* and select a *HEIS*-compatible Hebrew font, you will be able to type from right to left, lines will break properly, etc. The fun begins the instant you try to edit what you have written and discover that none of these programs has the slightest idea where your cursor is actually located. You highlight a word that needs to be removed, press the **Backspace/Delete** key, and discover that you have actually deleted something else entirely.

So, in self-defense, you decide that you really can give up *MS Word* (that wasn't so hard at all, was it?) and you contact Davka Corporation, the major vendor of Hebrew and Jewish-related software for the Apple market (both the Apple II and the Macintosh). Davka has a rather good script-manager-compatible word processor for the Mac called ***RavKtav***, designed by a company in Israel and marketed exclusively by Davka. For about $350 you get a program that is the functional equivalent, more or less, of *WriteNow*. It is also copy-protected. On the other hand, I have found the program to be rather good, and technical support at Davka is also quite good, and they market a nice array of fonts that make using the program a pleasure. A significant quibble, however, is that when Davka distributes *HEIS* with its programs, it neglects to include the laser fonts that are a standard part of that package (for those, you contact HUG/Hebrew Users Group). Davka also markets a desktop publishing program manufactured by the same Israel company called *AllPage*. I haven't seen it, but again, I have no reason to believe that it isn't at least as functional as *Ready-Set-Go*, the program it replaces in the Davka catalog.

In fact, since the *HEIS* comes with several laser fonts, along with several bit-mapped fonts, one doesn't necessarily need to go out and buy Davka's—although, as I said, they do have some nice ones.

The problem is that *HEIS* has some fundamental flaws. For starters, there is no agreement on a complete Hebrew character set. This is difficult to explain. Take it on faith—even though no one denies that Hebrew, as it is used in business correspondence, or writing in general, uses 27 basic letterforms—that life isn't that simple. For instance, there are approximately ten vocalic diacriticss in Hebrew that are not letterforms, but instead appear over or under the consonants whch they modify. Although they aren't used in normal correspondence, they must be used whenever educational materials are being prepared, or for scholarly articles that are discussing biblical fine points. In addition, most of the basic 27 letter-forms can be modified by the addition of a dot, which grammatically signifies a double character that is being left out. And, just in case that isn't enough, there are dozens of additional symbols used in the bible that additionally modify those basic 27 letterforms. Oh, and of course, there are the ligatures, extended characters, and the like. Finally, there are some special symbols used only for Yiddish, the secular language commonly used as a ***lingua franca*** between Jewish communities in the Western world for several centuries. (Hebrew, being a holy language, was not used for non-religious purposes.)

This is not necessarily such a big deal. Arabic has an equally large character set. Chinese, Japanese, and other eastern languages are tremendously more complicated. But, in the case of each of those languages, there is no argument about the need for each of those characters. In the case of Hebrew, since only the basic 27 characters are used for quotidian purposes, there is a tremendously strong push to simplify the language overall and discard the vowels, and all modified characters. And it is certainly convenient to do so, since the result is a slim character set with no particular complications. In fact, since there are no capital letters in Hebrew, it means that the necessary character set is even smaller than that used by other languages. What this all adds up to is that it is common—even on the PC—for Hebrew word processing to support only the basic set of 27 characters, despite the fact that this is in no way useful to most people who need to make use of Hebrew. The vast majority of Hebrew users who do not live in Israel use vocalics either because they need them to help their readers understand what has been written, or because their primary purpose is educational or scholarly.

The bottleneck goes back to *HEIS* itself, which has been designed to accomodate only the basic 27 characters, and which has spawned an aftermarket of "our program/font can't handle that because of *HEIS*." support people. For the PC market, manufacturers have been forced to consider the fact that most of their sales will be in the United States, that there is no operating system support for mixing Hebrew and English, and that if they want to sell their products, they may have to deal with the issue of

HEIS
MacInHebrew
Hebrew Users Group (HUG)
c/o Berkeley Hillel
2736 Bancroft
Berkeley, CA 94704

Perfect Word
RavKtav
(copy protected)
Davka Corporation
845 N. Michigan
Chicago, IL 60611
800-621-8227
commercial

Fonts
Font World
2021 Scottsville Rd.
Rochester, NY 14623-2021
716-235-6861
$99 up
commercial

LaserHebrew
Computer Linguist
Box 580
Edmonds, WA 98020
206-775-1130
$119.95
commercial

the extended Hebrew character set. On the Mac, thus far, there has been no such movement.

What wonderful chaos and confusion is caused by this state of affairs? Well, for starters, let's consider the typical Hebrew user who needs vocalic diacritics and the dotted characters (forget the set of biblical symbols at the moment). The vocalic diacritics need to be placed underneath the characters modified. On the PC, the cheap algorithm is to simply center the vowels, and that works for most characters. It's a familiar routine, since a similar algorithm is universally used to handle accents with latin-alphabet languages. On the Mac, however, such routines have never been used. Instead, when one purchases a set of Hebrew fonts that contain vowels (and most Hebrew fonts for the Mac do not include the vowels) one uses two or three sets of vowels. One set that is offset sufficiently to work with the narrow Hebrew characters, one set for the medium width characters, and one set for the wide characters. Bleh and fooey! Not only does this preclude the possibility of æsthetic results, but it makes it impossible to create sorting routines that will deal with Hebrew that includes vowels. Imagine trying to search for a string and not being sure which vowel character is present. The system is clunky, difficult to use, and wastes tremendous space on the keyboard. Oh, and needless to say, there has been no standardization of the placement of these characters on the Mac keyboard.

In other words, if you wish to write in Hebrew, and don't need to use anything but the basic 27 Hebrew characters, you can get the *HEIS* from Apple's Israeli distributor, or through the Hebrew Users Group (HUG), or many other sources. It will give you reasonable, albeit not terribly friendly, Hebrew/English capability using *WriteNow* or *Word* or *Full Write*. If you do a lot of writing in Hebrew, you can invest in *RavKtav* and get a reasonable word processor that is not only fully *HEIS* compatible, but also a good choice for general English word processing needs. But if you are doing scholarly work, or creating education materials, or just like to include vowels, then you are still better off abandoning your Macintosh and buying a cheap PC clone.

On the other hand, if you ignore what I just wrote and insist on using the Macintosh, then there are some beautiful fonts that come with the *Hebrew Information System*, and still more available from Davka—fonts the likes of which you are unlikely to see on the PC for years and years.

There is one final recent development of note. As a short-term solution, it offers a lot of hope. At some point, we at HUG realized that most of the people using Hebrew on any microcomputer weren't using their Hebrew programs to do heavy Hebrew word processing. Most simply wanted to be able to insert the occasional Hebrew word or phrase, and many put up cheerfully with some damnably messy ways to do that. Bearing this in mind, HUG has been working with several font manufacturers, including Adobe and most recently, a new company called Font World, to think out ways to facilitate the use of Hebrew (and encourage the sale of Hebrew fonts!) to the large body of people who would love to use Hebrew but don't want to mess around with two operating systems, and don't want to purchase a special copy-protected program just to be able to insert the occasional word or phrase in Hebrew. Font World has just announced its release of its first Hebrew font package in a non-*HEIS*-compatible format. This means that you will be able to use these fonts just like any English language font. The keyboard will be phonetic, and the fonts will include all Hebrew vowels, etc. (although the vowels will have the same problems mentioned above). The price: you'll type backwards. But, you'll be able to see what you are doing, and to edit that Hebrew just as you would anything else. You aren't going to use these fonts to correspond with your aunt in Israel. But short blocks of Hebrew will be a breeze. Editing them will be simple. The keyboard will feel familiar. In short, they will be usable for the average Macintosh user, and will allow the average Mac user to not only incorporate Hebrew in documents, but to incorporate Hebrew fonts of a quality comparable to the best commercial postscript fonts. The same fonts, of course, will also be released in *HEIS*-compatible formats for those people who need that compatibility. But until either Apple, or application developers sit down

and resolve the basic problems, it doesn't make sense to force people to worry about *HEIS*—to go to considerable expense and effort to get a tool that only half works.

Here is a short, annotated list of Hebrew software/font vendors for the Mac.

Davka Corporation. Along with software for virtually all microcomputers going back to the Commodore C64, they offer a credible word processor called *RavKtav*, and a new DTP program, *AllPage*. They have a wide selection of *HEIS*-compatible laser fonts ($50/each), and a few for English formats (with and without vowels). They also have several bit-mapped fonts for ImageWriter use ($15/each). Davka also carries a full line of Jewish-related software including a HyperCard seder, Jewish clip art, and other educational materials including *Perfect Word*, a biblical database reviewed in the last BMUG newsletter. Their Macintosh support person, Binyomin Siegal, is marvelous, and can also be reach via the KesherNet FIDO network. (The Bay Area node of KesherNet is Hineni, in Palo Alto: (415) 855-9548).

Font World. This is actually a brand-new company. Font World's type designer, Israel Seldowitz, is probably the most experienced, and most capable Hebrew type designer for the Mac. The company sells only fonts, and also has a line of English and Cyrillic fonts. The first Hebrew font package, in English format, includes 2 Hebrew display faces, a *sans serif* face, and a traditional text face. Price is $99 for the set, more if one also wishes the *HEIS*-compatible versions. Font World offers a 20% discount for verified HUG subscribers.

Computer Linguist. This company offers the only "complete" Hebrew typeface, including all symbols used in the *Biblia Hebraica Stuttgartensia*. They also sell a complete Bible, a program to learn biblical Hebrew, and a wide variety of typefaces for other languages ranging from Arabic and Cyrillic, Thai, Kanji, Akkadian, Sanskit, Hieroglyphics, etc. They've even got some good European language fonts, and electronic Bibles in a dozen versions and languages. Nice stuff, and inexpensive. The first place to contact if you are doing scholarly work in any language. *LaserHebrew* comes with *HEIS* (although *LaserHebrew* itself can be used with or without *HEIS*) and the full complement of *HEIS* system fonts. The *MacHebrew Scriptures* is $99.95—specify *MW Word 3.0* format, or *MacWrite* format. The *tanakh* comes on 4 800K disks, or 9 400K disks (the 400K disk set is an additional $35).

Hebrew Users Group. HUG puts out a quarterly newsletter and maintains a forum on the WELL. It supports users of Hebrew on all computers, ranging from Unix to Apple IIs. Articles range from the quarterly vendors guide, to developers issues, to reviews of commercial software, and include (usually) extensive Q&A columns. HUG also maintains a software library and has occasional meetings in the Bay Area. If it exists, HUG either knows about it, or wants to know now. Subscriptions are $7.50/year (US/Canada) or $10/year (foreign). Checks should be made out to: Berkeley Hillel Foundation. [Disclaimer: The author of this article co-edits the newsletter and has a biased opinion about its important place in the scheme of things.]

MacInHebrew: This early attempt to do for Macintosh users what *HEIS* now does is somewhat buggy, and works only on Macs up to and including the Mac Plus. It is shareware, and is available from HUG. For many people, however, it will be quite adequate and should be considered. The latest version of the program, *2.1*, is reasonably clean. It functions as a DA, and works with all of the usual Mac applications. *HEIS* is also available from HUG, and is also a reasonable option for the occasional Hebrew user, with the warnings as noted throughout this article.

Jeff Klepper, a cantor in Chicago, has set up a file exchange for RavKtav users who use the program to create Jewish liturgical material. He can be reached at: 1224 Dempster, Evanston, IL 60202, or as "klepper" on the WELL.

Ari Davidow is co-editor of the Hebrew Users Group Newsletter, and co-founder of the Jewish conference on The WELL.

The Joy of Macros

by Adrenne A. Elenteny
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Experience is a comb which nature gives when we are bald.

—Chinese Proverb

Using our own minds to solve problems is undeniably the best way to learn. It is also the most frustrating, stressful and downright unpleasant way to learn. After all, we really don't need to experience getting hit by a bus to learn that standing in the middle of the street is unsafe.

This article is for anyone who may be faced with a problem similar to mine. It is offered in the hope that my experience will save you from tearing out your own hair while trying to find a similar solution. Believe me, being bald is not the love potion you may think it is.

The Scene:

I work for a consulting firm that develops and implements tailored intellectual property protection programs. Among our clients are many top industry luminaries such as Apple Computer, Tandem Computers and Sun Microsystems.

Part of my position, as Resource Specialist, is to manage the company's information system. This system includes a Mac II, a couple Mac SE's and a Mac 512 with an external HD20, all networked through *TOPS*.

The Problem

As you might imagine, protecting information is pretty important in our company. After all, we should practice what we preach.

A concern was growing that original document files, which had been previously saved and delivered to the client, were being changed and even lost by our hard working, indutrious team members. Often older documents were used as guidelines for creating new documents. Unfortunately however, files were being retrieved, revised and then saved rather than being renamed.

Part of the problem was that these delivered document files were not separate from other files, so they were easy to call up and accidently overwrite. Also our hard working, industrious team members are people, and people tend to forget thing. You couldn't expect everyone to remember to lock a file before they opened it, or to rename the original file when they wanted to work with it. Ideally, the necessary precautions should be implemented for them each time they opened a delivered document file.

Ultimately, I wanted to automatically write-protect all the delivered client documents, but not limit viewing access to them.

The Thought Process:

Brilliant Solution #1:

I got it!! Since the HD20 on the Mac 512 only stored the computer's system folder and nothing else, it would become the "Delivered Document Depot".

All I would have to do is partition the hard disk and add the attributes which would lock part of the partitioned space. Thus, I could move delivered document folders into the locked area, preserving them from change but not from access.

Yes, I was pretty darn pleased with myself at this point. I told all my friends about BS #1 (in this context BS, of course, means Brilliant Solution) and all my friends told me to get a life.

Collapse of Brilliant Solution #1:

The external HD20 turned out to be 750 years old in computer time (that's five years for you and me). As a result, it was not recognized as a SCSI device and so could not be partitioned using its existing system file.

Yes, I was pretty darned upset with the collapse of BS #1, but I sure wasn't going to tell any of my friends about it!

Brilliant Solution #2:

Then I got it! I would use our *TOPS* networking system to automatically "mount" and "remember" to write-protect the Mac 512 volume. The HD20 would appear on everyone's desktop and they would be able to easily access, though not change, the delivered document files.

Yes, I'll admit that once again I was pretty dog-darned pleased with myself. I told all myu friends about BS #2 and they told me that electro-shock therapy seemed relatively safe these days.

Collapse of Brilliant Solution #2:

This solution was perfect for everyone, except the Mac 512 user. She could still wantonly access and rampantly change the delivered document filed stored on her hard disk. Unfortunately, *TOPS 2.1* did not allow you to write-protect local volumes. The engineers at TOPS had yet to realize that some people must be protected from themselves.

Okay, once again I was pretty upset with the collapse of BS #2, but at least my friends didn't know about any of these failures which plagued my life.

Brilliant Solution #3:

A different approach was required since the hardware solution didn't work, the *TOPS* network didn't work, and I would most likely be out-of-work.

So I asked myself what else was common to everyone using the system and to the delivered document files? Of course! The word processing software.

I would program a macro which would:

* access the delivered document folders stored on the HD20;
* bring up a dialogue box warning message immediately after a delivered document was opened; and
* automatically require the user to rename the document before continuing.

By golly, this time I REALLY was gosh-darned pleased with myself. This solution would work. I went to tell all my friends about BS #3 and discovered that, oddly enough, they had ALL bought answering machines. Isn't coincidence a funny thing?

Epilogue

Of course there were other solutions for this problem. One person suggested that I could buy a package which would partition the HD20. "What!", I insanely shouted, "and miss out on all this prime mental torture? Pull-leese!"

I could also have waited for the new version of *TOPS* which would have apparently allowed more control over local volumes. By that time, however, our original documents could have been hideously mangled beyond all recognition.

So, I guess the moral of this techno-tale is that a lot can be learned through mistakes and the pursuit of false assumptions. I hope that someone has gained from my trials and tribulations. After all, why make your own mistakes when someone else can make them for you?

REVIEW OF MACWRITE II

and what it tells us about Claris

by Michael Scriven

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There is some good news and some bad news. This is in many ways a distinguished program, and it is certainly a massive improvement over the archaic *MacWrite 5.0*. It incorporates many new features (some of them setting new standards for design or implementation), it is much faster, and in most respects it compares well with the obvious opposition such as the formidable *WriteNow 2.0*. In fact, if it weren't for a few serious worries, it would have to be considered against any other word processing program available.

There are three kinds of problems, each of them a sign of bad quality control: the package has too many loose ends (e.g., 'black holes' in the documentation); one or two of the capabilities have serious deficiencies by current standards (e.g. the spelling checker); and there is at least some crashing and cannibalism. These weaknesses are of more than ordinary significance, because: (i) this is Claris' first internally developed program in its stable of seven products, hence the first test of whether it has talent as well as money; (ii) Claris makes a very big deal out of its "quality assurance" program; (iii) the company has huge resources; (iv) release was held up for a long time, supposedly to "get things right."

What we see here is something of an object lesson in the difference between hype and high performance. But keep in mind that none of the big companies has been able to debug its Mac word processor even a year after its first release—that means Microsoft, Ashton-Tate and WordPerfect. It would have been a remarkable achievement to get the product in good shape first crack out of the box—although it's much simpler than the ones just mentioned. However, T/Maker did just that with *WriteNow 1.0,* and *WriteNow 2.0* is the most serious competition for this program. Claris has not done it with *MacWrite II*.

This is only a preliminary review, based on a few days use—on a Mac II with 4MB of memory. But the reviewer bought the product,—to make sure it was a typical sample—and has put in many hundreds of hours with five of the seven serious alternatives (and looked carefully at the others—*Nisus* and *Works*), so the comparisons may be useful to other prospective buyers. A good deal of evidence suggests that evaluations of big programs—this one takes up 800K on the disk—take a few months to become reasonably stable and accurate. They also need to reflect experience on a range of machines and with a range of other simultaneously mounted programs and utilities. But as you'll see, there is a fair amount that can be said with some confidence. For example, what's missing in the manual is not going to appear with the passage of time.

A GUIDED TOUR

We'll start with the nit-picking and move on to more serious matters. It would be boring to go into great detail on these minor points, but let's mention some examples in the order in which they might strike you, as a proud new owner.

The registration card doesn't leave room for the things it asks you to fill in, and it requires too many things: why should one have to fill in the phone number of the company from whom one bought the product and wrestle with classifying your job into a dumb set of categories? Obviously, for the convenience of Claris. That's not a good attitude to convey in the opening moments of a relationship. Furthermore, Claris sells a very expensive forms-creation program, and it probably loses a few customers for that product with every bunch of *MacWrite II* buyers that goes through a badly-designed form like this. Why buy from someone who can't do it right, right?

Well, forget the trivia. Let's move on to the ***Getting Started*** booklet. Right at the beginning, there's a section called "If you're familiar with MacWrite." Aha, you say, that's for me. It has just two suggestions. First, it recommends that you read the booklet ***What's New***, which is listed in the package contents and referred to elsewhere. However, it is not included in the package. Calling Claris produced the story that it was not supposed to be there; still, they promised to send a copy. They didn't. Second, it is suggested that the *MacWrite* graduate explore on his/her own by working through the ***User's Guide***. If you followed this advice, you would soon be in trouble, since the ***User's Guide*** does not begin with ***or even contain*** anything about installing the program. That's too bad, because it doesn't install in a standard way; and it won't work if you do the intuitive kind of installation. So you fall back to the ranks of the beginners, who do get walked through installation in ***Getting Started***. You may then be slightly annoyed to find that the instructions refer to folders that are not to be found on the disks. And so on. This is careless stuff, but perhaps the program is so good we can forgive the packaging? Let's move on.

Suppose you open up a new document and start trying to use the program without reading the 200pp ***User's Guide***—which is the method of choice for many experienced users and a good way to find out how intuitive the program is. You set up the ruler to suit yourself, and doing that is just like *MacWrite*. So far, so good. You want to set up a footer with the page number centered. Under the Format menu you find **Insert Footer**, and a little window opens. Unfortunately, it does not share the ruler you have carefully set up for the document with a center tab. Pressing **Tab** reveals that the footer ruler has left-flush tabs about every half inch. You call for **Show Ruler**; it comes up without any tabs or tab boxes showing. You move back to the document and try to copy the document ruler into the footnote window—there's a promising pair of commands, **Copy Ruler** and **Apply Ruler**, that look tailor-made for this. No luck. Looks like we're going to have to plow through that manual. Last try before doing so: let's check out the thesaurus, a big feature in the advertising and on the box. Not mentioned on any menu. Try **Help.** Nice-looking *HyperCard* stack. No mention of "thesaurus" in Table of Contents. Do a **Find** to locate it—nice option to be able to do this. Search process shockingly slow; option doesn't look so nice. And the search is unsuccessful; no mention of "thesaurus." Try index of ***User's Guide***. No mention of "thesaurus." Not impressed.

But you do notice some nice things while fiddling around, beginning with the fact that the spelling checker has an interactive option (i.e., it beeps after any word not in its dictionaries). There's an auto-hyphenation option, with a customizable exception dictionary. There's the best **Page Preview** in the business (big and editable, using the basic commands); the best WYSIWYG in the business; 8-color support (though the **Plain Text** style command doesn't revert it to black); a "stationery repertoire"—style templates library—that is a big jump ahead of any previous versions; the ***definitive*** Search & Replace option; foreign language dictionaries (announcedly) available for French, German, Spanish, and British English; multiple automatic columns on screen; fonts in their own font on the menu but ***without delay***; font sizes to 72pt on the menu with up to 500pt on command; customizable font and style menus; adjustable inter-paragraph spacing; a speller that not only accepts middle caps, as in *MacWrite*, but insists on them. Nice stuff. Of the seven other serious word processors available for the Mac, nothing does better on these points; and usually only one does as well.

Mail merge (not checked out for this preview, but sporting a conditional merge) is a big addition—though one wonders what the market for this really is today—and so of course is the long-overdue ability to have several documents open. The import/export capabilities are outstanding: straight in and out of *Word*, *WriteNow*, *Works*, and *Write*. You can also directly import and massage graphics in the basic formats (Draw and Paint). Footnotes with auto-numbering are there—as overdue as multi-windowing—but endnotes are also there (according to the box), which is much less common and very important for the academic market since

many publications require them instead of footnotes. (Their absence is a real weakness in *WriteNow* for that market, just as the complete absence of footnotes cripples *MindWrite*). But how do you implement endnotes? They aren't on the menus (which do have a footnotes command), nor in the **Help** stack, nor in the dictionary of the spelling checker, nor in the ***User's Guide*** index. Poor quality control. They turn out to be disguised as an option in the Preferences menu, where they are described without using their name. It should be obvious that if you advertise a feature, you should refer to it. P.S. You can't have both footnotes and endnotes, a drawback in many scholarly situations.

As for the thesaurus, when you eventually find a Read Me document in its electronic file folder (it wasn't a last-minute addition, since it's mentioned on the box—"package sleeve" in the jargon—and in five minutes one could have run off an insert for the packages), it turns out to be a good one. In fact, the Microlytics one. Unfortunately, the way it's incorporated—"unincorporated" would be a better word—makes its use very inconvenient compared with the implementation of the same thesaurus in other programs. You have to call up a desk accessory called *Word Finder*, which puts a new "WF" menu on the menu bar, then get back into the document (if you're running under MultiFinder) and then get up into the new WF menu. Of course, *Word Finder* should be set up to open automatically.

Furthermore, the Read Me instructions for the use of the thesaurus are incorrect: you can't highlight the word in which you are interested and then call the desk accessory (the natural sequence), because doing so deselects the word. Moreover, you can't really use the thesaurus at all without a hard disk, as the thesaurus instructions make clear but the advertising for the program does not: "Requirements: two 800K drives." Even using the rest of the program without a hard disk is pretty tricky, for that matter. The program itself needs 800K, versus 400K for *WriteNow* (which can in fact run on 175K); and it creates fat Temporary Files, so you certainly couldn't have long documents. It's simply not competitive with *WriteNow* for the low end market.

Word count is buried almost as deep as the thesaurus. It's not on the menus, although it is in the index and findable by a **Search** through the **Help** material. You can't invoke it directly, only in conjunction with the spelling checker; and it won't give you a count until after it has located all potential misspellings, an irritating and retarding feature. It works pretty quickly on short and medium length documents—about 20secs for a document that runs 104K. (The other side of the coin is that by the time it gives you the count, it *has* already identified all words not in its spelling dictionary and is ready to interact with you about them and its suggested alternatives.) However, it doesn't count all the words in the document. You have to count the words in the footnotes, headers, etc. separately and—the manual says—add the totals up. Isn't that what computers are for? (Law articles often have 25% of the text in footnotes, so the main text count is not always a good approximation.)

So the documentation needs to mention endnotes and thesaurus and improve the pathway to word count. And the ***Quick Reference Guide*** should surely give keyboard equivalents when describing functions and should surely mention that triple clicking selects a line and quadruple clicking a paragraph, and so on.

Missing

(i) Some simple but useful tricks we are seeing more frequently such as a way to return to previous working points and autosave with an optional back-up copy maker. A page number indicator that shows the numbers of both pages when a small part of one and most of another are on the screen. Hyphenation on em-dashes.

(ii) Better design in the speller,which should: remember the words you've already told it to "skip" in this document (but did not want added to the User Dictionary); let you hop out to the document to make a change to surrounding text and come back in without having to start the whole check again *from the top of the document*; remember what parts of the document have already been checked

when you want to spell-check recently added material (two other word processors offer all of these facilities).

(iii) A number of upmarket items which you may be able to live without, including the following: full-fledged style sheets (though it has some handy approximations that are easier to use, such as multiple templates, format copying, paragraph style setting, custom styles, and global change on styles); control over files from within a document (not even *Word's* lonesome **Delete**); glossary, shorthand, outliner, and index/table of contents; calculate, sort, and renumber; line and box graphics for paragraphs and column dividers; and a few style options we find in one or another word processor such as kerning, vertical centering (useful for correspondence and title pages), matching column depth when interparagraph spacing is on, initial caps case change, and the overscore and dotted underline that lawyers and groupworkers use to identify different recommended changes—or authors of changes—in co-authored draft documents. It would suit most writers a great deal better to have a glossary, especially a shorthand version (which automatically replaces abbreviations) and/or an outliner, rather than the mail merge.

For the mousephobe, there is a fairly good list of keyboard equivalents, if you don't mind learning a new set with little mnemonic rationalization. (Have "look and feel" lawsuits condemned us to a life without standardization of keyboard commands?) But you can tame the chaos with *QuicKeys*, using its Alias option to convert the *MacWrite II* commands to your more familiar preferences. However, there's no way to deal with the absence of **Select Sentence**, or **Select to End of Sentence**, or with the fact that the menus will show the wrong keystroke equivalents if you create *QuicKeys* aliases.

Kudos

There is some other design finesse which deserves credit—in addition to many items already mentioned. (i) The **Save** process is intelligent—it beeps if you have already saved the document and try to do so again without any changes; and it saves only additions, hence is ***usually*** very fast even on long documents (contrast this with the spelling checker, or with *FullWrite's* save, or even *Word's* **Fast Save**). (ii) The **Cut & Paste** is very clever. Although it takes two clicks to **Delete** a selected word and its adjacent space (which does, after all, give you more control), when you are moving material or deleting by word, it closes up the spaces automatically and adds them as needed at the insertion point. A new standard!

Bugs & Boggles

A few hours of use brought up two cases of losing material—a sentence and a paragraph—which simply vanished when nothing was happening to them. One of these cases involved losing the cursor and a full freeze-up. How often will that happen? Only time will tell, but for many writers the possibility of losing text is the kiss of death. Why switch to a new program when we can lose data in the way we have come to know and—well, "love" is not the word, but—live with, in our present one? Or, in the case of *WriteNow*, where data-loss is an alien phenomenon, are you really willing to get into trouble just to get endnotes, auto-hyphenation, delete right, and a few other niceties?

Referring the loss of material to Claris technical support led to some suggestions that they were due to incompatibility with, perhaps and alas, *Findswell* and/or *SuperClock*. Tech support were friendly and knowledgeable, although it sometimes takes a while to get through to them. They have great hours, 70hrs/wk, starting at 6am PST, but you pay for the calls. They sounded convincing about not having run into this problem before, but there aren't too many copies of the program out yet. A day later, without changing the utilities roster, the problem recurred and part of a sentence vanished, when not being worked on. That frequency is too low to experiment on easily;

and it may be low enough so that you—who naturally back up every two minutes—are willing to take the chance. If it is due to an incompatibility, there would be a definite fix, at the cost of the utility. However, it is not the only problem. In tidying this up for the print run, the program "hung" (froze) when a few words had just been selected. And that's not the only other problem.

Now for error-trapping and the saga of long documents. If you run a **Search**, you normally move from find to find by hitting **Return** or **Enter**. You get a beep when there are no more occurrences of the sought item in the document. If you *then* (mistakenly) hit **Enter** again—even though it has politely beeped to tell you that there aren't any more occurrences—what it should do is put up a message or just beep again. With short documents, it manages this, although by 20pp there is a certain amount of fooling around. But with longer documents—over, say, 30pp of single spacing—the program goes into a loop, the clock keeps spinning although nothing ever happens, ***and*** you've lost the cursor. Even if you're not naughty about telling it to do something it shouldn't do, and use a *QuicKeys* command to close the Find dialog box, you're locked up.

There are other problems with long documents. The hand-outs say that it will "create" a thousand-page manuscript. Perhaps it will, if you just keep typing long enough and never look back. The big question is whether you plan to ***do anything with*** your monster manuscript, like edit it. Let's talk about a 440-page document, since that's a frequent size for a book manuscript and the Claris people reported that they actually had one of this length running down at the office. One was created here, in single-spaced 12pt New York, a common editing format, by copying this review in larger and larger blocks. The results are in one way or another different from other word processors.

The good news is that the typing speed is unaffected by size. And you can jump around instantly to any page (by dragging the scroll bar) or to the top and bottom of the file; and **Select** is instantaneous. But there are some things you would not want to do very often. In the step when the 220pp version was **Copied** to get up to 440pp, the program took a couple of minutes to respond to the command to make a copy of the file on the screen and three minutes to insert it at the end of the file. That would correspond to what would happen if you wanted to move a chapter into or around in a big manuscript, and it's not really acceptable. Major **Saves** or **Searches** or **Spelling Checks** (and word counts) become very slow.

That pretty well rules out putting a whole book up, because you have to keep doing those things. It's especially infuriating to have to go through scores of old spelling non-errors that you've already told it to disregard in previous passes, but don't want in the dictionary, like "200pp" or "8MHz." But the bad news is that the only way to get times ***that*** fast is by abandoning MultiFinder, using which roughly speaking doubles the times. (On the other hand, perhaps the loss of text won't happen on Finder; it hasn't so far.) Increasing the memory partition from the recommended 800K to 2MB did not bring the times down to anything like a reasonable level. The comparison with *WriteNow* is unfavorable: not only will the latter program beat the *MacWrite II* times, but it will do so under MultiFinder; ***and*** it has a document spelling memory so that you do not get called to the screen for a hundred non-errors; ***and*** it remembers what parts of the document it has checked before, even on a previous session, so that spelling checks on edits of a big document are very fast.

Font changes on the long documents involve similar unacceptable times, but can have worse results. If you change to certain non-standard fonts—the problem showed up when using Sydney—you lose most of the document and get an error message. To be safe, stick with the LaserWriter repertoire; or run experiments first. That's a problem which will affect others besides the desk-top publisher. To be fair, one must remember that in all this the program is not only changing the content, but rejustifying lines and repaginating, unlike *Word 3*. (These experiences do suggest that new word processors should include a settable autosave capability, since they are very unlikely to be absolutely crashproof; and you may lose a lot of customers if the reviewers lose materials. Fortunately, the next release of *QuicKeys* has this.)

There's another little problem. *MacWrite II* creates temporary files which are twice the size of the original—in this case, 1700KB. And it needs more space beyond this—sometimes a lot more—to **Save** the file. Since you don't have **Delete** in the commands accessible from within the program, be sure that you have *DiskTop* or *DiskTools* handy to clear out some space—if you want to save your work. Our hypothetical thousand page manuscript would require five or six megs for living space, and perhaps that much RAM; and you'd have to climb in and out of it any time you wanted to use another application. Not what one would call a good tool for working on a thousand-page manuscript.

It is a sobering thought that we still do not have a word processor that can massage a document the size of a normal book or dissertation at reasonable speed, let alone anything the size of a text or reference work. Perhaps we'll see a review by someone with an 8MB IIx soon. That ***may*** make a big difference, but even at the recently decimated memory prices it would cost you six times the cost of the program to add that to a 1MB machine.

There is some hope on the horizon. Apple guarantees that (Operating) System 7—although it may need the 68030 processor of the latest Macs to do this trick—will include virtual memory management and will be out in 1989. If so, it could swap material in and out of memory; and there should be fewer ***failures*** with long documents, large spreadsheets, etc., although we'll need more than that to conquer the ***speed*** problem. (Specifically, we'll need the 50MHz clock speed (which Motorola has just made available on the 68030), SRAM caches, and 90ns main memory.) Meanwhile, keep your chapters short!

Quality Assurance At Claris

So that's the story. Taking everything into account, it's clear that a potentially excellent product was flawed by too many careless minor mistakes of word and deed, as well as a number which are more serious. It makes one a little cynical about the following quote from Claris' self-description in the press package: "...one of the most efficient, extensive quality assurance (QA) and testing programs in the industry. The process applies to the entire product—not just the software itself, but also manuals, demo disks, other in-box training material, package sleeves, and even marketing and advertising material. Nearly one-sixth of the company is engaged in QA, testing, or providing administrative support for these activities." If one preview can pick up this many faults in a couple of day's hard work, someone down there is getting overpaid.

One can get a little nearer an explanation of the poor ***de facto*** quality control by looking at the biographies and responsibilities of Top Management at Claris, as described by Claris. There are eight people in the group: one accountant, one lawyer, and six from a marketing background. The one person who also has some background in product development, now VP of product development, makes no mention of quality assurance in his twelve lines. Eight people in what one would guess is the six-figure bracket and not one of them bothered to check their first real product for errors that show up in the first day of use? "One in six" employees in quality assurance, but not one of the eight in top management? That's what they ***really*** think of quality assurance—it's something for the marketeers to trumpet about, but not something to support at the top level, pay for at the top level, and have all management take an interest in implementing. That indifference about quality is what shows up in the results.

Of course, this kind of management sloppiness isn't fair to the customers, but it's also not fair to the programmers. Much of the programming in *MacWrite II* sets new standards and deserves better packaging. Various loose ends were not picked up by the project manager, and it's pretty clear there just wasn't enough ***tough*** beta-testing. The press releases provide fulsome quotes from four managers described as "beta-references," including the director of computing at Yale. It's pathetic to see their unqualified endorsements, with not one reference to extended serious testing or the obvious comparison (with *WriteNow*). They read as if they had just seen a ten-minute Claris demo. All Claris had to do was get four experienced sharpshooters out of the Mac Users Groups that exposed the *Word 3* scandal (when the

magazine reviewers were all taken in), and they would have got the feedback which would have converted a spottily excellent but seriously flawed product into a superb one. But no, those marketing managers would rather have a few quotes from a "beta-reference" (read "buyer") at Nabisco or ARCO who says it's just what they're looking for, because quoting them will sell copies to the business market. A cynical abuse of beta-testing.

Comparisons & Conclusions

Some of the local sales folk are saying that *MacWrite II* is a *Word* competitor. Ignoring the bugs for the moment, the conventional wisdom would suggest that it is too short of bells and whistles for that comparison. But many people might be willing to accept it in terms of two tradeoffs: it has substantially improved the way *most* of the basic capabilities work—even compared with *Word 4*—and it is somewhat less expensive (street price under $200). There's not much in *Word* that you can't add to *MacWrite II* with a set of accessories, unless Microsoft has got religion and worked out how to make, and integrate into release 4.0, a serious outliner which doesn't bomb (only *MindWrite* in the whole world of word processing has done this). But the betting would have to be, based on the inadequate evidence available at this moment, that there will be fewer bugs in *Word 4* than we already know there are in *MacWrite II*. After all, Bill Gates has promised to cut off a little finger if there is *one* bug in *Word 4*; and they did send out 500 beta copies *and follow them up*.

The more obvious question is whether *MacWrite II* is a *WriteNow 2.0* or *MindWrite 2.1* competitor, although Claris, typically, has priced it considerably higher. Until the bug issue is cleared up, it's not clear whether it's competitive in that respect. Both of them are generally said to be close to bug-free but our experience with *WriteNow 2.0* belies that. It will take more runtime with *MindWrite* to be sure of the situation there.

Overall, on the evidence available now, the *betting* has to be that there are more bugs in *MacWrite II* than in either of the others, certainly than in *WriteNow 2.0*. Once that is cleared up, the situation becomes more interesting. *MacWrite II* is substantially superior to both of them on a number of the standard operations, while being well behind on others as well as cost and resource demands. In using it, one often has the feeling of using a word processor that is one generation beyond *WriteNow 2.0*. Once in a while, however, as with the speller and counter, one has the opposite feeling.

MacWrite II is certainly nicer to use than the existing powerhouse programs, which lack overall design unity and have at least as many bugs. (The final release of *Word 4* may become an exception, though we won't know until tough evaluators have tried it for several months). But *WriteNow* may well have fewer bugs and uses half the resources; and *MindWrite* has a marvelous built-in outliner. So *MacWrite II* isn't really competitive with *WriteNow* if you're running a minimum configuration, or very long documents under MultiFinder; and it isn't competitive with *MindWrite* if you find a good outliner a real productivity booster. Still, there's room here for different preferences.

The perfectly rational buyer would be well-advised to wait for better news on bugs and manuals—and perhaps for a few improvements—before investing in this program. In general terms, it's pretty bad news to find this much trouble in just a few days working with a program—although not quite reminiscent of the *Word 3* debacle. It took about six months of hard work before *FullWrite's* nastier side became clearly visible, long after all the magazine reviews had appeared. Since the obvious problems haven't been fixed in *MacWrite II*, the real possibility exists that other and worse problems will emerge. Everything we've turned up could be fixed in a hypothetical release 1.1 in about three months. However, one could have said something like that about *WordPerfect* and the others (replacing "three months" with "six months"); and after a year we still haven't seen the fixes. (Ashton-Tate has just announced a "maintenance" release 1.1 for *FullWrite*.) This is where a real commitment to quality shows up: paying the bill for making and mailing the bug-fix upgrade for a program which needs it but isn't a complete disaster.

One should keep in mind, too, that the program lacks any substantial special features (like *MindWrite's* outliner, *FullWrite's* vector graphics and desktop publishing ability, or *Word 4's* prototypical tablemaker and fully customizable menus). This is significant, because the pricing is up close to the big guns; and many people will want one or another of their big range of special tricks for that kind of money. A cynic would suspect that Claris is planning an upmarket product and doesn't want to crowd its future market. But it may just be that they wanted to do a limited number of things well, like the great restaurants who keep the menu short. If so, they've still got a slice of the job ahead.

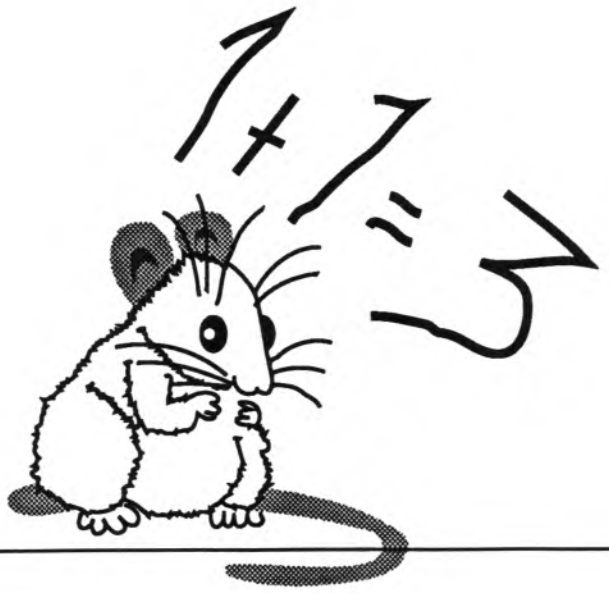
In adding up the pros and cons, one must stress that there are too many non-intuitive aspects of the design as it stands. Maybe "non-intuitive" is too kind. Remember that problem about how to set up the format on a footer so as to center a page number? No intuitive solution, ***and*** the ***User's Guide*** doesn't deal with it at all. But why wasn't the footer ruler set to default to the document's ruler? (Footnotes have the same problem.) Maybe ***counter-intuitive*** is the right word.

Still, that would be an unkind note on which to leave the review. The program is fast, copes better with long documents than any of the big ones, and does most things in a way you will certainly find attractive and may find addictive. Since we were just making a nasty remark about footers, let it be noted that this is the ***only*** program which allows you to jump straight in and edit the text in the footers (and footnotes) right where they appear on the screen; it's the ***only*** program with an exception dictionary for hyphenation; it's the ***only*** one which does the "page 3 of 6" trick on page numbers (very useful for faxing and legal work); it takes up less disk space to store material than the bigger programs; and there are many details of other functions that are done better than anywhere else. Moreover, the program is generally easy to learn, once one battles through a few roadblocks of the kind mentioned, which are molehills for any veteran of *Word 3*.

The big question is: How safe? The program is good enough to convince this reviewer that it is worthwhile to keep using it as a second string for a while, despite the risk of loss of work; and—*if* we can track the loss down to some incompatibility with a dispensable utility—to keep using it until we find out whether *Word 4* is really good. But the "if" is absolutely crucial. Giving up *FullWrite* after a year of use only makes sense if one can get a ***reduction*** in the crash rate, not a comparable crash rate. *FullWrite* is now starting to corrupt documents to the point where they—and the application—quit immediately they are opened; and the outliner has always been highly unstable. And, of course, *FullWrite* has never been any good with long documents; but it does a great many things *MacWrite II* never heard of. *Word 3* bombs when editing footnotes and messes up the reference numbers—and is confused and confusing in many other ways. *WriteNow 2.0* is great but limited in functions and antiquated in too many ways—e.g., the absence of Delete (to the) Right, which *MacWrite II* has got more or less right. *WordPerfect* is still incomplete and bombs. *Word 4* may fix all the bugs that were present in the early beta versions; and, then again, it may not. The competition is not overwhelming. We are currently stuck on the plateau of the power/reliability curve, where the big guns are simply not adequately reliable.

Actually, Word 4.0 does have some "bugs" in it, but nothing really to get alarmed about, in fact, you may find it difficult to find them at all.

Numbers



1+1=3

Accounting Is A Bitch

Don't Blame It All On The Software

by Scott Beamer

Ever notice that accounting software is the only kind to regularly charge for tech support? This is no accident. Bookkeeping in a small business is an endless source of frustration. Frequently, this frustration is not the fault of the software. Small businesses tend to run along a ragged edge, under constant pressure, uncertain of how to allocate their precious time and capital.

There is no quick fix. We all know how easy the Mac is to learn and to use, but having a Mac and buying *PixelPaint* doesn't make us artists. The right accounting software is not going to make up for under-trained staff who are not given sufficient time to do their job; nor is it going to make up for the management's lack of understanding of the principles of sound financial management.

Accounting software clearly falls in the category of expert software. It is not designed for the casual user or those who don't like to read manuals. One who does the books of a small company in spare time and is not interested in learning much about bookkeeping should seriously consider one of the personal financial management packages discussed below which are adequate for many business applications.

Many of those who phone me for advice in this category are part time or start up businesses looking for a quick fix. I usually recommend MacMoney. Surprisingly, many larger businesses that are planning on buying a high-end accounting program will find a mid-range package will do nicely.

Small, but growing, companies may have decided on a high-end package as they believe owning it will somehow validate their company's growth prospects, make it seem more successful, or at least help maintain an image. They don't seem to be aware of the big league headaches associated with having under-trained personnel who are trying to deal with these complex packages. Salespeople recommend $2,000 packages for reasons having more to do with their own bottom lines than that of the client. I suspect consultants may also make recommendations with the intention of putting themselves permanently on the payroll.

Some multimillion dollar companies are quite satisfied with the $400 accounting package. To make the right choice, you are going to have to spend some time evaluating your needs and what's available.

How To Choose

Be realistic. It is very unlikely that any off-the-shelf accounting package will have every item on your wish list. To use an off-the-shelf package, you are going to have to bend some, and change the way you do your books to some degree. Why not view it as a chance to overhaul your bookkeeping process?

Building your own package from the ground up is not financially feasible. It will take hundreds, possibly thousands of hours of programming time. Most such projects never get finished.

Modifying an existing program is somewhat less expensive and less risky, but is very likely much harder than you imagine. So, carefully consider using a combination of off-the-shelf products. If you like one package that doesn't have an inventory module, for instance, maybe the best solution for you would be to keep your inventory records in a flat-file database. Many tasks, including invoicing, can be adequately handled using a word processor or spreadsheet.

There are some highly specialized packages available for the Mac. As most are written in a database language, the best way to find them is to contact the database companies. They will often refer you to third party developers for your specialty.

Nevertheless, accounting is an area of definite weakness for the Mac compared to the MS-DOS environment. I'm not sure why. Maybe it will just take more time. If a

program was written in *dBase III*, however, you can run it on the Mac using *FoxBase* if you don't mind turning your Mac into an IBM. *FoxBase* allows the development of a Mac style interface for the same package. Few developers have done this for their products yet.

For the last couple of years, I have been looking for an accounting package for my wife's business—a group of pediatricians. I have yet to find a package to do the job. So in the meantime, we have decided to go with a regular accounting package and transfer later to a medical office management package when the right one becomes available.

MacMoney
Survivor Software Ltd.
11222 La Cienega Blvd.
Suite 450
Inglewood, CA 90304
213-338-0155

Dollars & Sense
Business Sense
Monogram
531 Van Ness Ave.
Torrance, CA 90501
213-533-5120

Managing Your Money
MECA Ventures, Inc.
255 Riverside Avenue
Westport, CT 06880
203-226-2400

Quicken
Intuit
540 University Ave.
Palo Alto, CA 94301
415-322-0590

Group Decision

When deciding on which software to buy, include everyone in the decision-making process. This includes the data entry clerk, the bookkeeper, and the accountant. All have important input perspectives.

A common mistake is to have your accountant choose a package for you. If you're reading this article, you've already decided on the Macintosh, but your accountant may not even know how to use one. My accountant phoned me once, saying a client had sent her the manual to a Mac accounting program. She felt she should try to help her client, but she doesn't use a Mac. What was she supposed to do, read the manual cover to cover for the client at $150/hr?

The accountant is most helpful when you know how to ask the right questions, like "how about revising the chart of accounts?" or, "Does this package generate the reports we need?" A good starting point would be to have a sample version of the package up and running, then you can walk your accountant through it and get specific insight into needs.

Don't forget your role as business owner in selecting the package. Even if you won't be using it directly, you are the one who needs timely reports to keep informed on the financial health of your company. It is quite possible that you need to spend some time learning or brushing up on principles of accounting.

The bookkeeper or the data entry clerk should also play a major role in deciding which package to choose, since they will spend the most time actually using it. Do they know how to use the Mac well? Don't try to make them learn the Mac and the accounting package at the same time. You may well need to hire a temp while moving your books to the computer or changing between computerized packages. Be sure to keep books the old way for at least the first two months while you are using the new package. If there are problems, keep parallel books longer. To do this may require more than twice as many hours as the old way. Make sure your staff is up to it. Your staff may not be enthusiastic about your planned improvements. Bonuses, overtime, or temps will go a long ways to smoothing things over.

Try Before You Buy

There are several alternatives to just buying a package and hoping it works. Most offer demo disks. For sure, find some way to try the package out before committing yourself to it. Some offer money back guarantees. Be sure you understand the terms of the deal. Some retailers will give you a credit if the package doesn't prove satisfactory. My brother phoned up one company and talked them into offering him a money-back guarantee. It may be possible to rent the package you are considering.

My Books

Though I personally have most Mac accounting packages and know how to use them, I don't use them for my business as a writer. I keep a bibliography of my articles in a flat file data base, along with what I billed for each, and whether or not I have been paid. I invoice with my word processor. I use the last bill to the same client as a template. Then all I have to do is change the date and the description of the article. I print a hard copy for my records as a test run, then a Best quality copy with an envelope for the client. All income and expenses I keep in MacMoney, along with records for my investments and my wife's income, and our personal affairs.

My Current Favorites

There are probably over one hundred accounting packages available for the Mac today. I have no interest in doing an exhaustive list. Instead, here are some of my favorites to give you an idea of what's available and to start you off on your own search.

SMALL

MacMoney. I use this one for both my personal and business records. I like it because it has the most automated data entry of any package currently available, it is very easy to learn, and it is very forgiving of errors (too much so, many accountants feel). It also has the most flexible and customizable reports, yet it is among the cheapest. Survivor Software plans on issuing an invoicing package for use with *MacMoney* in the near future.

Dollars and Sense is O.K., but more expensive, more old fashioned, and less flexible than *MacMoney.*

Managing Your Money is less likely as good a match for a small business. It is tailored to keep the personal records for a mid-level executive with modules for stock portfolio, IRA, savings for college for the kids, estimated personal income tax, and personal net worth.

Quicken. I strongly recommend against this one because it is promoted with so much hype. Its packaging leads one to believe it will do much more than it can. My highly critical commercial review was never printed (though I was paid for it). The other reviewers loved it, but I feel that shows the reviewers weren't well aware of the other packages available and did their evaluation on the back of the package.

MEDIUM

atOnce. This is my current favorite. It is published by Layered. It has excellent tutorials and Help material in *HyperCard.* A slick, easy to use package with AR, AP, GL, and Payroll.

Simply Accounting. Before *atOnce,* this was my usual recommendation. It still is if you need Inventory or Job Costing.

Business Sense, under various names, is about the oldest accounting package on the Mac. Many swear by it, others at it. The notorious data corruption problems of a couple years ago appear to be solved, but it could still use another face lift. There are better solutions for less money.

MultiLedger and *Payroll* by CheckMark are modest, flexible packages well liked by many, including many accountants. They assume more bookkeeping competence than most other packages. They are very "Plain Jane," making minimal use of the Macintosh interface. Payroll can be used independently.

LARGE

Insight by Layered. It's sometimes referred to as "the Porsche of accounting packages" for its sleek looks and high price, but many businesses would rather have a Mack truck. It has good automatic charts and reports for executives. Accounts Receivable has an innovative new feature, a first among Mac accounting packages. It can import data using a window that looks like the *Font/DA Mover.* The left window is a list of the fields in the data file to be imported, and the right one assigns which field the item goes to in Insight.

Great Plains has long been the dominant high-end package for multi-user situations. The company has excellent marketing and tech support departments. Their product is a port from the other world. It still looks like DOS, and to some degree, works like it. They offer some specialized packages. Depending on the modules you need, this may be your best choice for a multi-user environment.

SBT is another port from the MS DOS world. Written in dB III, it runs best with *FoxBase* for the Mac. *FoxBase* means you can customize it, and may even make it work more like a Mac, but that's a lot of work. SBT is a solid company with many multi-user modules, but they have been very slow about getting their Mac act together. They have the unique feature that allows work on the same set of books with both MS DOS machines and Macs over the network. Several specialized applications are available.

POINT OF SALE

POS IM by Anamatrix. This is a sleek looking, high end product; the one they use in the Apple factory store. It has an accounting module (as well as point of sale and inventory management). They are discussing a marketing agreement with Layered, to tie into Insight. The inventory management is the key: outstanding.

ShopKeeper is definitely software "for the rest of us." Priced at about one eighth of the one listed above, it does a surprising amount of the same things. If you have a modest business, this will not only keep your books for you, it will make your Mac serve as your cash register. Both of these products work with bar code readers and cash drawers.

atOnce
Insight
Layered Incorporated
The Schrafft Center
529 Main Street
Boston, MA 0212
617-242-7700

Simply Accounting
Bedford Software Corp.
15311 N. E. 90th
Redmond WA 98052
206-883-0074

MultiLedger
Payroll
CheckMark Software
P. O. Box 860
Fort Collins, CO 80522
303-484-3541

Great Plains
Great Plains Software
1701 S. W. 38th St.
Fargo, ND 58103
701-281-0550

SBT
One Harbor Drive
Sausalito, CA 94965
415-331-9900

POS-IM
Anamatrix, Inc.
1219 W. Gentile St.
Layton, UT 84041
801-546-1616

Shopkeeper
Shopkeeper Software, Inc.
P. O Box 38160
Tallahassee, FL 32315
904-222-8808

The Wait for WINGZ

Was It Worth It?

by Scott Beamer

The product reviews of *Wingz* have already been out in the commercial press, so here's my commentary on what I felt didn't get said. I also have used *Full Impact 1.1* for a while, and *Excel 2.2* just showed up.

The wait is over, and the results of this round of the spreadsheet sweepstakes is in. First came *Full Impact*, now 1.1, then *Wingz*, and finally *Excel 2.2*. Do we have a new champ?

In a championship boxing match, they say outboxing the champ is never enough. You got to knock him out. Did *Wingz* do it? No, the match seems closer to a draw. The consumer is the winner as there are three fine spreadsheets to choose from now. They will keep each other on their toes.

Desktop Spreadsheet Publishing is now here.

With *Excel* and *Full Impact*, *Wingz* enters a new age in which spreadsheets are finally breaking away from "plain Jane" computer style printing, much as desktop publishing broke away from the typewritten page as the preferred medium of business communication.

Despite what the ads and some reviews say, the most revolutionary thing about *Wingz* is not 3-D graphics, it's HyperScript. Not only is this language built into *Wingz*, the interface is built in the language. This means the user has the potential to almost totally customize the look of the program.

You're right if you think I have yet to make my first script in this language, yet I expect to use it, not by scripting, but by using templates others make to speed me along in my work. Next year's tax templates should look great. Actually, several of my *Excel* templates would look better redone with some better graphics and a new menu bar in *Wingz*.

Just how soon they can deliver how many quality templates will probably be the deciding factor in *Wingz*' ultimate success on the Mac. For the average user, I see little difference among the three programs. *Excel* has the largest user base. It is becoming the case that no one can get fired for specifying *Excel*. That means, using *Excel*, you are most likely to be able to share spreadsheets with others, but more important are the templates available.

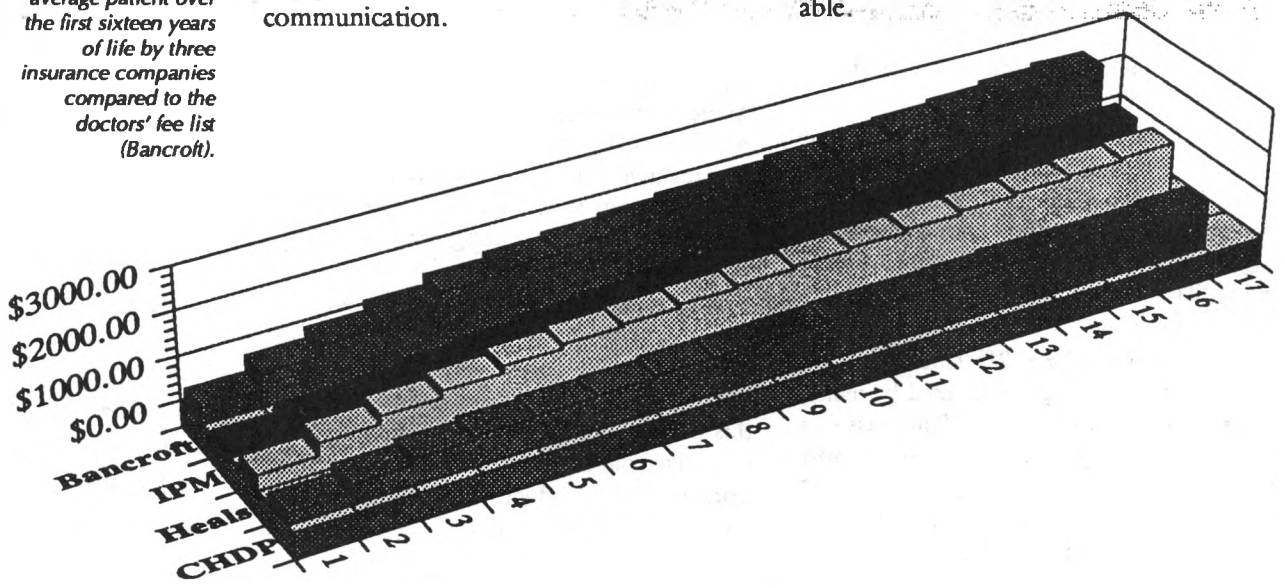


Figure 1. O.K. So 3-D graphics are useful. I was asked to do this one in WINGZ the day after I wrote the article. It compares the cumulative payments for office visits for an average patient over the first sixteen years of life by three insurance companies compared to the doctors' fee list (Bancroft).

There are two major sources for *Excel* templates, the usual shareware sources and Heizer software, a template brokerage. So far, Ray Heizer has done well by doing what Microsoft would like him to do. He provides the consumer a valuable service at a very fair price, but he is unlikely to make any move that can be interpreted as biting the hand that feeds him.

That means *Wingz* and *Full Impact* will have to find their own vehicle to spur template development and diffusion. This may be critical to their success, as *Excel* templates are essentially unimportable by them.

Who cares about 3-D charts

When was the last time you wanted to design a 3-D chart? For that matter, I find the Chart modules in all these products clumsy, a weak link. *Wingz* and *Full Impact* at least have the advantage that the charts are on the same sheet with the data, but why are they so crude looking and hard to use? Building a new chart in one of these programs is one of the few things that sends me diving into the manual every time.

It's no accident that all the examples with these programs are four bars, Quarterly sales, sales in four regions, etc. When I want to do a twenty year income projection for a company, or a sixty month performance chart, these products either can't do it, or they make a mess.

Was I the only one who felt my charting took a step down with *Excel*? *Cricket Graph* was distinctly better, but version 2.0 is about two years late. By the way, the latest word from Cricket is that they'll be getting to work on it as soon as they clear up some internal problems and finish rolling out their new paint programs, which means not soon.

What I don't like about *Wingz*

Wingz has its share of version 1.0 problems. I was impressed enough upon first trying it out, to try to move all my Financial sheets over from *Excel*. First problem, poor import/export capabilities. No non-Microsoft products can import or save as *Excel* file format. SYLK is as close as *Wingz* can get. That means your data, formulas, and text comes across O.K., but the numbers have lost all their special formatting. There are no dollar signs, commas, or decimal precision.

I figured it shouldn't take too long to reformat. Problem #2, my monthly financial report is twelve columns wide. It doesn't all show on a single screen. In *Excel*, I use the split screen to make sure I can see January and December, and go down the screen selecting non-continuous areas, and am reformatted in no time.

There are no split screen capabilities in *Wingz*. They seem to think tiling multiple views of the same spreadsheet should do as well. It doesn't, because you can't select areas in more than one window. This is one *Wingz* needs to fix next version for sure.

You would think from the splashy ads and the spectacular presentation abilities of the program that the manuals would be a knockout. They aren't. This was a distinct chance to one up *Excel 1.5*, whose manuals are no one's favorites, being too dry and often opaque. The manuals with *Wingz* are not as good as *Excel 1.5*, but then neither are the manuals with *Excel 2.2*.

Wingz should have spent the money on their manuals that they wasted on their soporific introductory video. Don't bother viewing it. Just take it out of the box, record some cartoons on it for the kids, and go back to playing with the *Wingz Test Flite*, a great source of inspiration. Too bad the manuals couldn't have come in at that level. Instead, they're journeyman writing, mediocre printing, inadequately indexed, and short ongraphics. They're not terrible, just disappointing.

WINGZ

Informix 16011 College Blvd.

Lenexa, Kansas 66219

913-492-2965

They Should Have Called It *Excel 1.6*

I don't have a love/ hate relationship with *Excel*; I've loved it from the first day it came out. But that doesn't mean I don't have any criticisms. All we of BMUG occasionally take on the role of loyal opposition and Microsoft baiters. Still, it has been showing its age. *Full Impact* and *Wingz* are precisely what *Excel* needed... competition.

Excel's recent update was minor for me, because it changed nothing I normally use. It had no great new feature, like the tables in *Word 4.0*. Instead, all its changes were to remove insufficiencies in the program that had become glaringly apparent. They didn't get all of them, either.

Among the ones they did get: *Excel* now can make use of more than one megabyte of memory, external commands can be used, and variable height rows means each cell can be formatted in the usual Macintosh way.

Things are better, just not impressively so. Still only eight colors, charts must be on a separate worksheet, and they persist in believing Mac users are equally willing to buy Macintosh style software and Microsoft style software.

Remember how to print a header, in *Excel*, I mean. You go to **Page setup...**, and type in things like "F&C&'font name'&'font size.'" Are you sure this is how you do things on the Mac? In *Wingz*, to add a header, you type something in any cells on the spreadsheet, style the text as desired, and choose **Header Range** from the **Format** menu. Thanks *Wingz*.

Have you seen the update manual that comes with *Excel*? It's unbound. You can put it in your three ring binder from your old version of *Excel*, but it fills the folder so full that there's no room for dividers. At least that's what I thought at first. Then I realized the manual is organized as a 600 page encyclopedia, all alphabetically, not by subject. The Table of Contents is a five page alphabetical listing of the contents with no subheads.

The pages inside are better layed out than before, and there's more graphics. Still, it's going to be a chore to find anything in there. It may be better written than the last version; I don't know. I haven't found my place yet.

MacCalc 1.2
Bravo Technologies
P.O. Box 10078
Berkeley, CA 94709-0078
415-841-8552
$139/$80
commercial

It Could Be So Easy

Are you interested in a spreadsheet with nothing fancy, just some plain old number crunching? Thought about *MacCalc*? The charting functions aren't hard to learn... there aren't any. No database either (what a relief). It works fine on any size Mac. Now there's *SPAMM*, an INIT that supercharges the calculation speed on Plusses and SEs. You can probably pick up *MacCalc* for about $80 and *SPAMM* for another $40 or so. This is the no muss, no fuss, easy-on-the-pocket solution.

A Preview of JMP:

Statistical Graphics on the Macintosh

by Al Best

At the San Francisco SAS users' conference, SAS Institute showed *JMP*, new software for statistical graphics on the Macintosh. John Sall and his development team demonstrated an alpha version of *JMP* and made it available for users to work with. This article is a preview of the program based upon my 3 months of testing. Built from the ground up as a Macintosh–only product, *JMP* includes a spreadsheet for viewing, editing, transforming and manipulating data; graphical and statistical methods for data analysis; options to highlight and display subsets of the data; and tools for saving and printing results. All of the standard Macintosh features are supported in *JMP*, and all analyses begin with graphical displays and are accompanied with options for statistical reports. There is to be a full help system in the final product, and you can use *JMP* with a minimal background in statistics

Data Tables

The data table is stored in memory and is shown in spreadsheet form (with rows as observations and columns considered variables). The column types are numeric, character or row-state (more on this later). Variables have one of three levels of measurement: interval, ordinal or nominal. Levels of measurement can be changed, and are automatically taken into account in any analysis. That is, if a dependent variable (Y) is interval, then SAS/GLM-like analyses are performed, and if Y is ordinal or nominal, JMP uses Logistic regression. Similarly, interval independent variables (X's) are treated as covariates, while nominal and ordinal X's are treated as classification variables with multiple degree of freedom contrasts.

The data values are editable and columns can be resized, hidden, or rearranged. Selected observations can be included or excluded from an analysis. This status of an observation is called its row-state. Row-states include: selected (highlighted); excluded from the analysis; hidden; labeled; one of 16 colors; one of 8 symbols. These row-states can be saved in a column and are assigned either by the usual point-and-click methods or by using program control features.

Any column, including a row-state column, can be calculated by a formula using the "calculator," one of *JMP's* most powerful tools. To create a new variable and store the standardized value of weight for the males and a missing value for the females, the formula and the calculator appear as in Figure 1. In addition to the usual mathematical functions appearing in the keypad at the top–middle of Figure 1, the calculator includes a lengthy variety of mathematical and statistical transformations.

Any delimited text file or SAS transport data set can be imported into *JMP*. Other data management features include the following: A *JMP* data table can be sorted on any of the columns and a new data table can

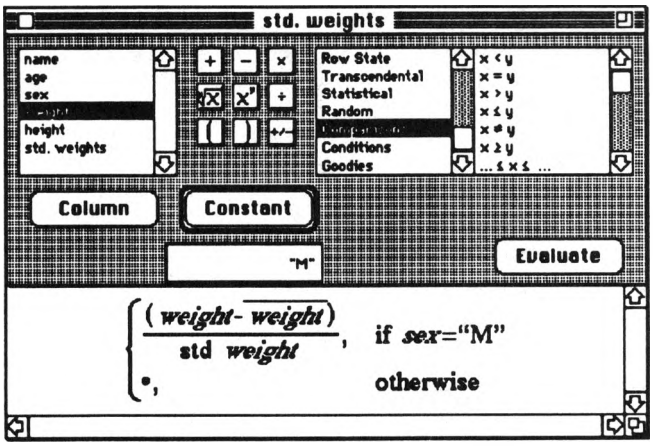


Figure 1

be created as a subset of the highlighted rows, each with a single command. In addition, data tables can be joined (merged) in several ways: by row number, by matching columns, and in a cartesian fashion where all values in a column of one data table are merged with all values in a column of another table. The **Stack** command creates a new table by stacking specified columns into a single new column. The *JMP* data tables can be saved as either a *JMP* file or as a tab-delimited text file.

Platforms

JMP calls the six main commands in the **Analyze** menu statistical "platforms," given below. Columns of the data table are assigned roles: Y (dependent), X (independent), frequency, weight, or label. Their measurement characteristics specify how an analysis treats the values. The different kinds of statistical tests are then carried out by each platform. The Distribution of Y platform describes the data in each column by using histograms, box-plots and other graphical and textual reports (such as a table of percentiles and moments similar to "Proc Univariate" in SAS). The relationship between two variables is displayed using Fit Y by X. Scatterplots, side-by-side box-plots, logistic regression cumulative probability plot, or a contingency table mosaic plot are shown, depending upon the measurement characteristics of the Y and X variable pairs (see Figure 2).

Other options allow for additional displays (for example, a quadratic regression line with 95% CI) or additional text reports (for example, an ANOVA table). In contrast with the bivariate displays in the previous platform, the Fit Y by X's platform fits each one of the Y variables by all the X variables selected. Leverage plots and textual reports illustrate the statistical relationships. To allow for more complicated effects of the X's, the **Specify Model** command provides access to the fit platforms but allows for the full range of univariate GLM model specifications: crossed, nested, interactions, polynomial, and response surface. These same models can be used in logistic regression where the dependent variable is not continuous. Not yet available are features which will allow specific contrasts between the levels of independent variables. In all of these models you can request that residuals, predicted values, leverage values, etc., can be saved as new columns in the data table. The Spin platform produces a three-dimensional, spinnable scatterplot of any three numeric columns. A principal components analysis is also an option in this platform. In the Y's by Y's display, all possible pairs of numeric columns are shown in a matrix of scatterplots, correlation matrix, and multivariate distance outlier plot.

All of the displays make liberal use of color. Points in one display are shown with

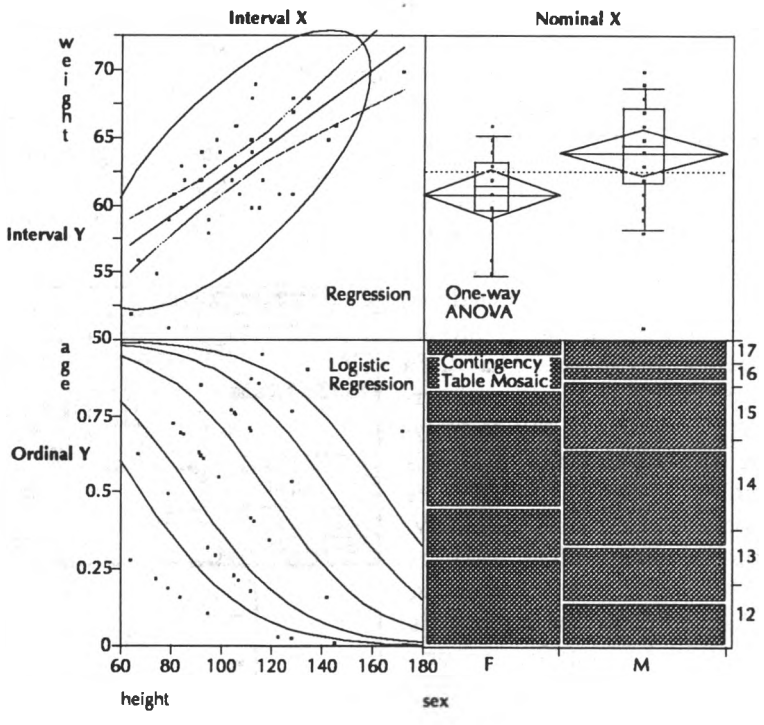


Figure 2

identical characteristics in all other displays. As the analyses progress, you can save a display into a *MacWrite* file which will contain the accumulated graphical displays and text reports from the analysis windows.

Comparison with SAS

JMP is not "SAS on the Mac." There are over 2 million lines of C code in the SAS System while *JMP* is a 500K application. There are thus innumerable features available in the SAS system which are not in *JMP*. There are also many things that you can do easily in *JMP* that are unavailable or difficult in SAS. A more detailed comparison had best wait until the product is actually released, but an initial comparison is useful. In general, *JMP* seems to have many of the features of the following SAS Procs: Print, Freq, Univariate, Corr, Chart, Plot, Means, Univariate GLM / ANOVA / Reg / RSReg, TTest, Logist, and Sort. In addition, many data-step-like features are available through the calculator and data management menu commands. Not bad for three programmers working for a year and a half! The strength of *JMP* is that it encourages exploration of data while providing clear graphical displays and their classical statistical underpinnings. It is easy enough for a beginner to handle and sophisticated enough for most of the work of a professional data analyst.

Availability

JMP will be available from SAS Institute sometime this fall. Its price will be similar to base SAS, and will be available as a yearly renewable site licence. Present plans call for a student version to be sold (at less than $90) which will be fully functional but be limited to 1000 cells. *JMP* will run on a Mac Plus with two disk drives, although a 2MB machine with a hard disk is recommended.

Al M. Best, Box 32 MCV Station, Department of Biostatistics, Virginia Commonwealth University, Richmond VA 23298. BITNET: Best@VCUVAX

JMP

Bill Gjertsen

SAS Institute

Box 8000,

Cary, NC 27512-8000.

(919) 467-8000.

Plotting Along

by Gary Pawlas

If you're a scientist, engineer (or just about anybody actually!) looking for a plotting program that: is low priced ($119 street price), allows the import and export of data in just about **any** format **you** want, allows for the easy creation and customization of just about anything **you'd** want to have appear in a plot, plots extremely fast, contains a programmable calculator allowing you to manipulate your imported data or to create data, then don't bother reading any further: just buy *Kaleidagraph 1.10.*

If you've used *CricketGraph* and have gotten headaches trying to import data from mainframe computers and then been unable to modify some of the plotting features, you'll appreciate the ease of use and flexibility *Kaleidagraph* has. If you're buying a plotting program for the first time you're lucky because you'll spend less time making the plot look the way you want and more time thinking about your results.

Basic Operation

After double-clicking on the *Kaleidagraph* icon, you're presented with empty data and plotting windows. Data is then typed into the columns in the data window or by opening a file containing your data (see **Importing Data**). Once your data is entered you select a plot from the **Gallery** menu. Available plot types include line, double y, scatter, histogram, box, probability, pie, polar, and column. A dialog box is presented and you select the appropriate data to be plotted form the data window. *Kaleidagraph* then plots the data using its default settings. Now you can modify the plot to get the appearance you need by clicking on the legends, axes, or data and change anything you can see (at least I haven't found anything you can't change!).

KaleidaGraph

Importing Data

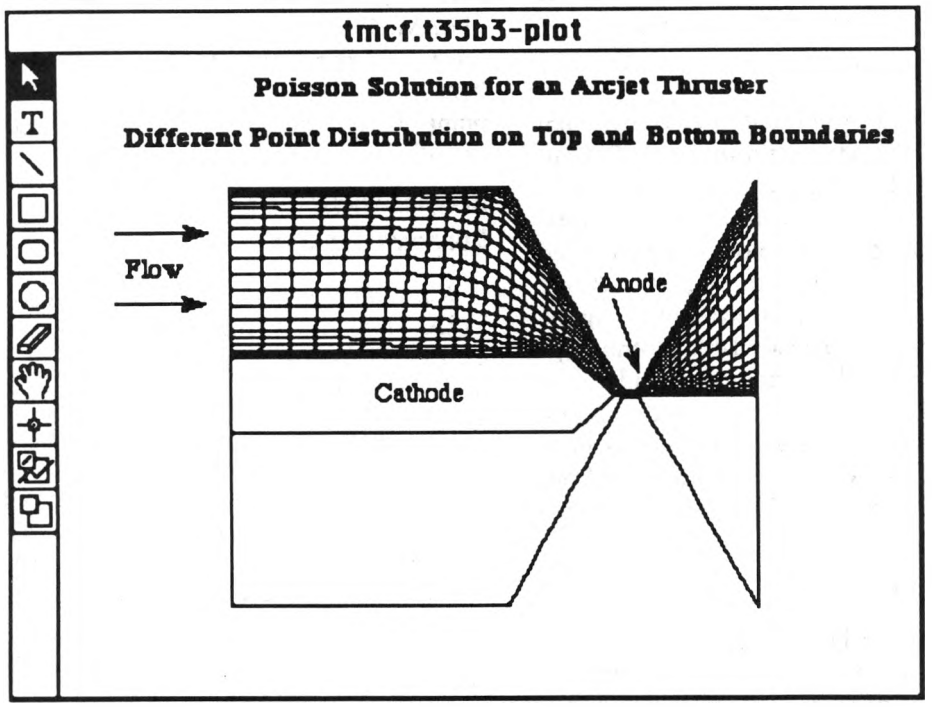
I typically write and run FORTRAN programs on large mainframe and Cray computers. I then download the results using *Kermit* (a program that allows different computers to exchange files) to a Macintosh II. The resulting text file can be read by *Kaleidagraph* by choosing **Open** from the **File** menu and selecting the desired file. The resulting dialog box allows you to describe the data format (number of rows to be skipped, number of columns, whether the information contained in a column is text or numeric, etc). If you've got the RAM you can have a data window with up to 20 columns and 32,000 rows of data. It's so easy it's scary!

If you got the data format wrong, for instance someone sent you a file and didn't tell you what the format was, don't worry, be happy and try again. As long as you don't save any changes, your original file is unchanged. You can then try another format. A simpler method to determine an unknown format is to open the file with a word processor and see what the format is.

Special Tools

Using standard *MacPaint* type tools you can add text, lines (with and without arrowheads), rectangles, circles, erase and move the objects around the plotting window.

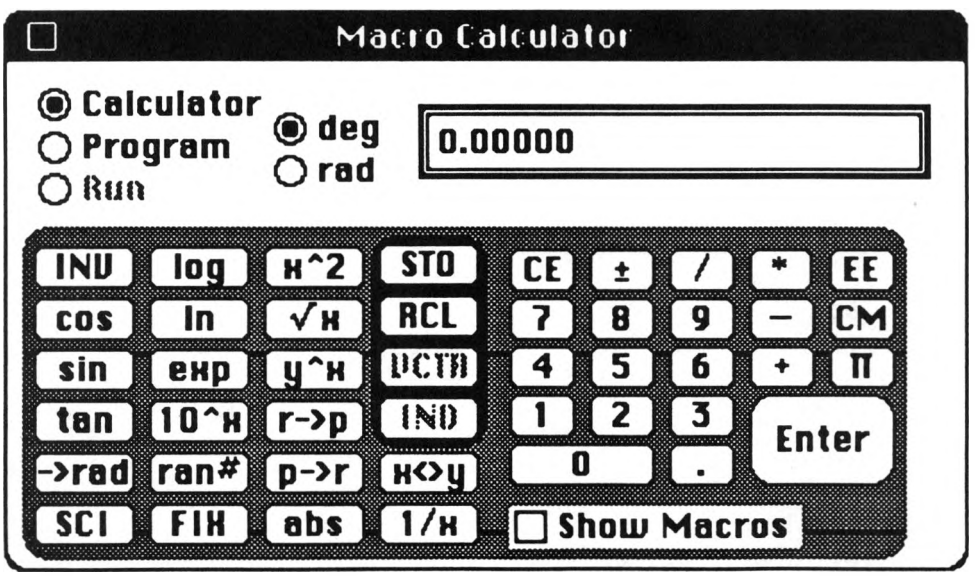
The three tools shown here deserve special mention. The first allows you to determine the coordinates of a point on the plot. The second allows you to draw a boundary around only the points you want plotted. Thus bad data points can be eliminated without having to modify the data file. Double-clicking on the tool replots all of the data. The third tool zooms in on a region of the plot. As with the



second tool, double-clicking on the tool replots all of the data. The ability to zoom in on a region of a plot is particularly useful if regions of your plot contain many points in a small area.

Calculator

The user is also provided with a scientific Hewlett-Packard type programmable calculator. Up to 1,000 line programs can be written and stored. The calculator can directly address the data window and perform calculations using rows and columns of data. Dialog boxes can be easily created for a calculator program you've written to prompt a user for input. Program debugging is especially easy using a single step execution mode.


Macro Calculator
Calculator
Program
Run
deg
rad
0.00000
INV log x^2 STO CE ± / * EE
cos ln √x RCL 7 8 9 − CM
sin exp y^x DCTB 4 5 6 + π
tan 10^x r->p IND 1 2 3 Enter
->rad ran# p->r x<>y 0 .
SCI FIX abs 1/x Show Macros

Kaleidagraph-1.10
Synergy Software (PCS Inc.)
2457 Perkiomen Avenue
Reading PA 19606
(215) 779-0522
$119/179
Not copy protected

KaleidaGraph

An entire article could be written about the capabilities of the calculator! You're actually getting two applications for the price of one when you buy *Kaleidagraph*.

Other Features

A great feature is the ability to reuse a plot style you've created again and again. Formulas can also be plotted and data can be curve fit with a polynomial and the curve fit equation displayed on the plot. An abbreviated **Help** file is available through the **Apple** menu. Pop-up menus are available using the **Command** key. The available plotting options that can be modified include: plot frame,colors, line types, major and minor tic marks, lengths of tics, axis limits, labels, grid, line thickness, and the list goes on and on. Eight colors are available for plotting on a Macintosh II.

Drawbacks

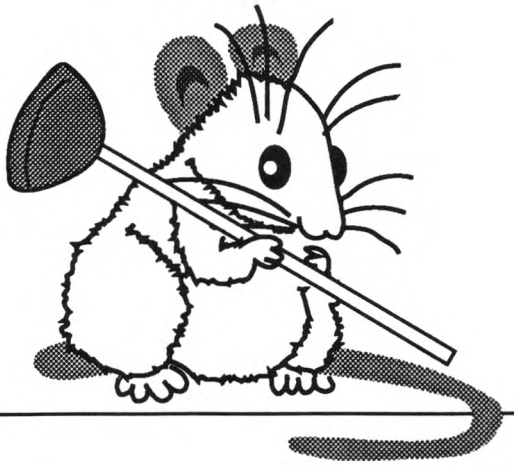
Some items in *Kaleidagraph* could be more Mac-like but its tremendous flexibility and options offset any shortcomings in this area. *Kaleidagraph* has quit under MultiFinder (System 6.0.2 version) without warning when I had too many data and plotting windows open. However, I had not allotted *Kaleidagraph* more than the suggested 400K of RAM. Besides, I did have six data windows open, each containing 2,000 pairs of numbers, and a plot window, containing 6,000 points. When I increased the RAM allotment to 600K I never had another problem.

Requirements/Technical Support/Updates

Kaleidagraph works with the Macintosh 512K, Plus, SE, II, Imagewriter I/II, and the LaserWriters. Calls for technical support are always answered quickly and competently.

Version 2.0 is expected to ship at the end of May and will contain many enhanced features. Among these are the ability to set the axis or frame length, multiple plot windows, up to 256 columns in a data file, adding super and subscripting to the text tool, and a full screen editor for calculator programs. Upgrades for all owner's of *Kaleidagraph-1.10* will cost $20 and will include an updated manual. The list price of version 2.0 will increase to $249.

Info Tools



FileMaker II and FoxBASE+/Mac

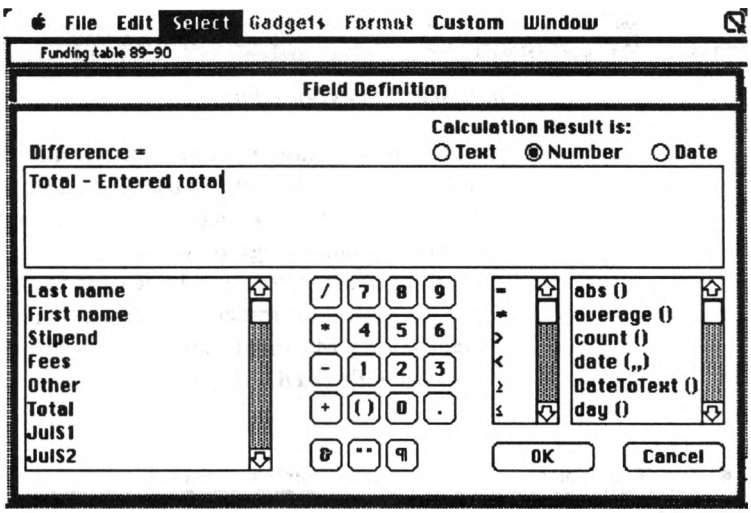
by Barry Shell

Introduction

Possibly the single biggest problem with the Macintosh computer has been the lack of good business database management software. Unlike the MS DOS world, where Ashton-Tate's *dBASE* has reigned supreme since day one, no single database product has emerged as the *de facto* standard for information management on the Mac even though five years have passed since the Mac's introduction. *MS File* has been around forever but it's so slow and weak that no one likes to use it. Sure, there are plenty of relational databases like *Helix*, *4th Dimension*, and *Omnis 3 Plus*, but these are too expensive and complicated for the average user. What's more, the impermanent nature of these programs make it difficult for developers to decide onto which bandwagon to jump. (Blyth Software, creators of *Omnis 3 Plus*, a once popular Mac database program, may be closing shop in the U.S.A.) Everyone is still wondering what database will emerge as the standard for custom application development in the Macintosh arena.

There are really two kinds of microcomputer database programs: simple list managers, and complex relational systems. Popular list managers are: programs like *MS File*, *Overview*, *Reflex*, *FileMaker*, and the database portions of *MS Works* or *Excel*. With these programs, you can only work on one file at a time (although often you may simultaneously look up information in other files). In general these databases are easy to use and are perfect for managing mailing lists, parts lists, and other plain ordinary lists of information. However, it is virtually impossible to use these programs to create true standalone database applications like accounting packages, stock portfolio managers, or reservation booking systems. For those tasks you need a relational database system that contains a built-in programming language. Programmable databases like *4th Dimension*, *Omnis*, *Helix*, *dBASE Mac*, and *FoxBASE+/Mac* can be used for these jobs.

It appears that *FileMaker*, now marketed by Claris as version II, is emerging as the most popular flat-file database for the Mac. Claris claims that *FileMaker* has about 45% of the market share of all Macintosh database management software. *FileMaker's* previous version, *FileMaker Plus*, was already an excellent program but *FileMaker II* surpasses it with dozens of refinements and new features that will surely clinch its position as the frontrunner of Mac databases.

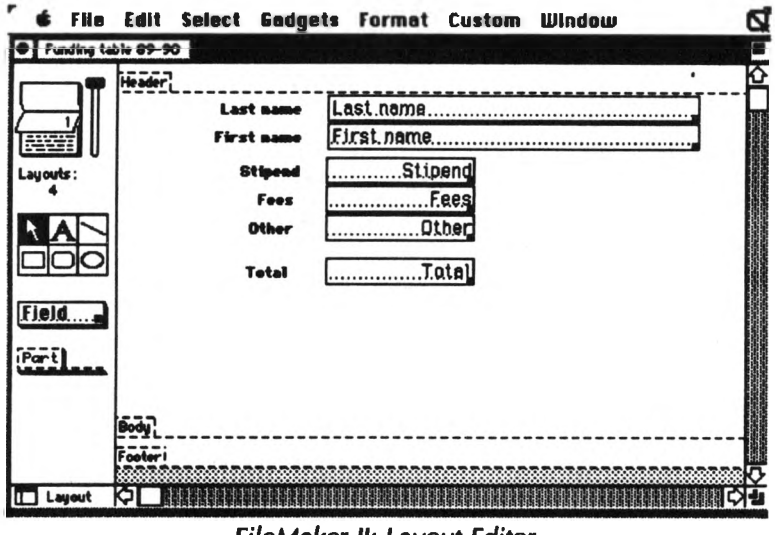


FileMaker II: Calculated Field Editor

Meanwhile a clear leader has yet to come forth from the pack of powerful relational databases available for the Mac. *Omnis* and *Helix* share long-standing loyalty from their diminishing clans of users. *4th Dimension* looked like it would take the prize, but turned out to be too slow, too expensive, and too difficult to program. Ashton-Tate's *dBASE Mac* does not live up to expectations as it is much too slow for true business applications.

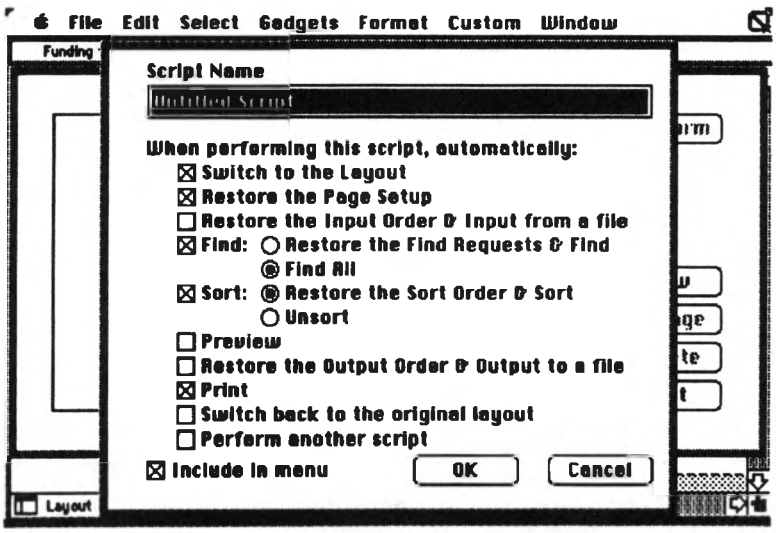
Now, a new entry into the Macintosh database market looks like it may finally satisfy the need for a programmable rela-

tional database product. *FoxBASE+/Mac* from Fox software has been getting consistently rave reviews, with its stunning speed, excellent user interface, and its well known *dBASE III* programming language. It can run native *dBASE* code copied directly from an MS-DOS disk (via modem or network)



FileMaker II: Layout Editor

opening up a huge world of vertical market applications for Macintosh users. In addition this code can be modified to take advantage of the Macintosh graphic interface, while keeping the structure and logic of the original program. Extremely fast and powerful stand-alone Macintosh applications can be created with *FoxBASE+/Mac*.



FileMaker II: Script Editor

In this article I'll look at both *FileMaker II* and *FoxBASE+/Mac* to compare and contrast their features.

FileMaker II

Past and present versions of *FileMaker* are unsurpassed in their intuitive easy-to-use interface. Tasks such as indexing and file maintenance are invisible to the user. *FileMaker* even periodically saves your changes to disk automatically to maintain data security in the event of a power failure. The use of fully customizable layouts to easily view data in any imaginable way coupled with truly breathtaking report printing and graphics capabilities makes *FileMaker* the database of choice for quality printed output.

FileMaker Plus was an excellent database management tool but *FileMaker II* improves upon it in dozens of wonderful little ways (and some big ones, too). The new version of *FileMaker* disproves the old adage, "If it ain't broke, don't fix it."

The superb quality of this product begins the moment you open the box and pick up the manual. This is not your typical software manual in a plastic three-ring binder, but a beautifully bound hardcover book that is so impressive, the disks almost seem to be included as an afterthought. The idea of publishing software manuals as hardcover books may catch on, if only for the extra level of copy protection that it affords the publisher. (It is much more troublesome to photocopy the pages of a hardcover book than a bunch of looseleaf pages.)

What's New: Multi-User Networking Features

FileMaker II can now be used on a network by two or more users at the same time. Multi-User capabilities can be implemented simply by hooking up several Macs with *LocalTalk* cables, or by using a more sophisticated network system like TOPS or *AppleShare*. Any old *FileMaker* file can be shared by several people. When several Macs are simply connected with *LocalTalk* cables, the first user must open the file and deselect the Exclusive menu item in the File menu. Subsequent users may then open and use the file. There are many levels of password pro-

tection so that files or even individual fields can have different levels of accessibility. Users may have browsing, editing or full file modification rights. Two users may work with the same record simultaneously. Any changes will appear on both user's screens.

Implementation of networking in *FileMaker II* is intuitive, seamless, and transparent to the user, but it does slow down the execution of most tasks.

Subtle Improvements

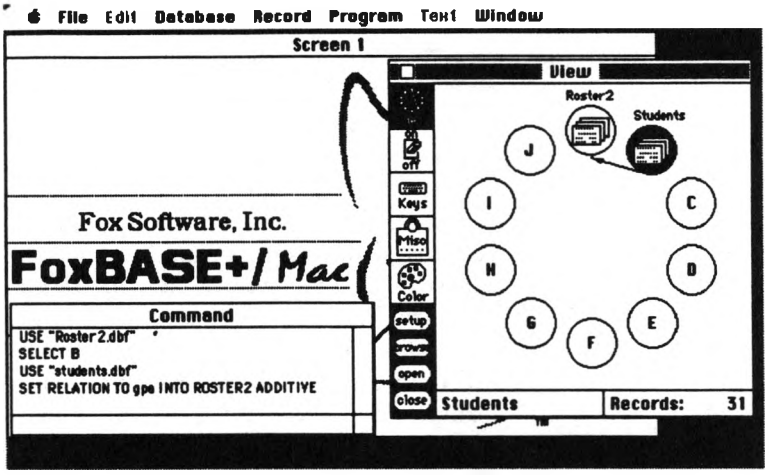
From the point of view of a seasoned *FileMaker Plus* user, the finest improvements in *FileMaker II* are rather subtle changes to the user interface. For example, there are a host of new keyboard shortcuts to speed data entry and manipulation. **Command-Shift-O** and **Command-Shift-W** open and close windows, while **Command-U** will preview a printed document. Other **Command-Option** key combinations allow you to skip various dialog boxes, for example **Command-Option-E** will delete records or layouts without the confirmation dialog.

In Layout design mode many small but welcome changes include "sticky" **T-Squares**, a **Grid** of twelve instead of nine divisions per inch, better placement of fields on layouts, and auto-scrolling of screens when objects are dragged beyond the borders.

When in **Browse** mode, tabbing to a field off screen, brings the whole field into view. In addition, you may now define the **Tab Order** (**Gadgets** menu)of fields. In **Find** mode, pressing Return or Enter now has the same effect as clicking the **Find** button. These may seem like minor features, but if you are using *FileMaker Plus* every day to run your business, these tiny improvements will make life a lot easier.

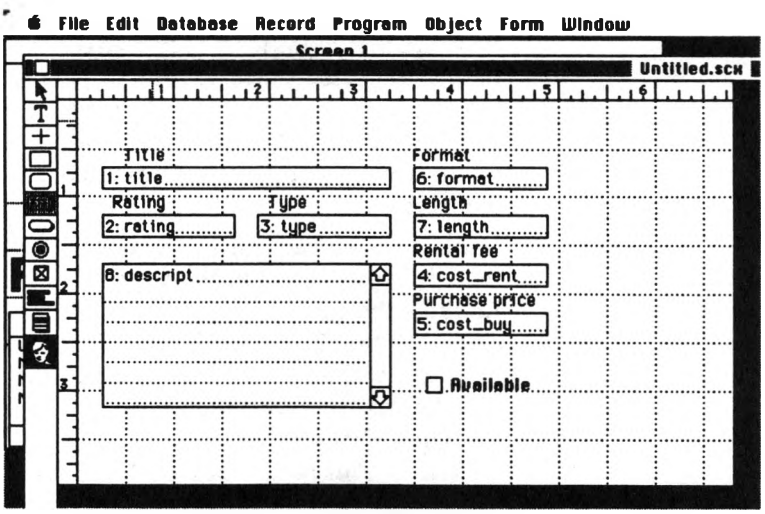
When defining lookup fields, *FileMaker II* remembers the Look Up file so that you do not have to reopen it every time you need to define more look up fields. Also, when creating standard columnar layouts, *FileMaker II* automatically checks the View as List option.

There are dozens of other little enhancements to the program that make it even easier to use than *FileMaker Plus*. Custom



FoxBase+/Mac: File Manipulation Dialog

paper size information now stays with the file instead of in *FileMaker* and it is no longer abnormally located under the **Apple** menu. Mailing labels are even easier to create and the **Slide Objects** command handles missing lines and information in mailing labels much better. **Print Preview** now shows the entire page including the margins. You may now have up to sixteen files open at once instead of eight. There is a **Relookup** command that recalculates values in look-up fields: very handy if you have changed something either in the look-up file or in a calculated field that changes the value in a look-up field. Text formatting is now controlled from new hierarchical menus and can be applied to individual characters on the screen or in the actual data. Repeating fields can now be split into



FoxBase+/FoxBase+Mac: Layout EditorMac: Layout Editor

separate records for further manipulation and there is a full screen width option that allows more data-entry fields to be viewed on the screen at once.

Graphics improvements include new Round Rectangle and Oval object types as well as control over line thickness and fill patterns. Color, too, is supported in *FileMaker II*. You may now access the time as well as the date from the Mac's system clock. Calculation formulas can have text results and there are eleven new text functions to manipulate text in formulas. Summary fields can now present running totals and running counts as well as weighted averages and fractions-of-totals. You may now also do a count on text fields.

Data entry has also been enhanced with data-type checking and user-defined pop-up lists of predefined choices. Also fields may now have multiple data entry options. One welcome improvement for those who have always wanted to document complex *FileMaker Plus* templates is the **Print Field Definitions** choice in the Print Dialog Box.

There is a new custom menu where you can display the names of an application's scripts along with new keyboard equivalents that will invoke them individually. Another improvement for scripts is the ability to chain scripts together so that a sequence of actions automatically takes place one after the other.

What's Still Missing in *FileMaker II*

Even with all the improvements in scripts, *FileMaker II* is still missing a procedural language that allows for true custom control of the database. There are no structured control features like "Do...While" and "If...Then...Else." Also, you cannot customize the menu bar or the dialog boxes that the user sees.

Although repeating fields can be split and there is improved implementation of **Auto Lookup**, these features are still clumsy compared to "true" relational databases. Another nice feature would be a script recorder like the macro recorder in *Excel*. Finally, although *FileMaker II* is a little bit faster than *FileMaker Plus* (when not in Multi-User mode), it is still relatively slow when dealing with thousands or even hundreds of records.

FoxBASE+/Mac

If speed is what you crave, you must get *FoxBASE+/Mac*. There is simply nothing that comes close to it for shear raw velocity. In all tests and reviews *FoxBASE+/Mac* has come through as the winner, often outpacing the competition by a hundredfold. If your application requires immediate answers to database queries while you are on the phone talking to a client, you need *FoxBASE+/Mac*. Other database programs for the Mac would require a few minutes of idle chit chat while you wait for the computer to find the information. With *FoxBASE* most operations take a few seconds.

Application Development Environment

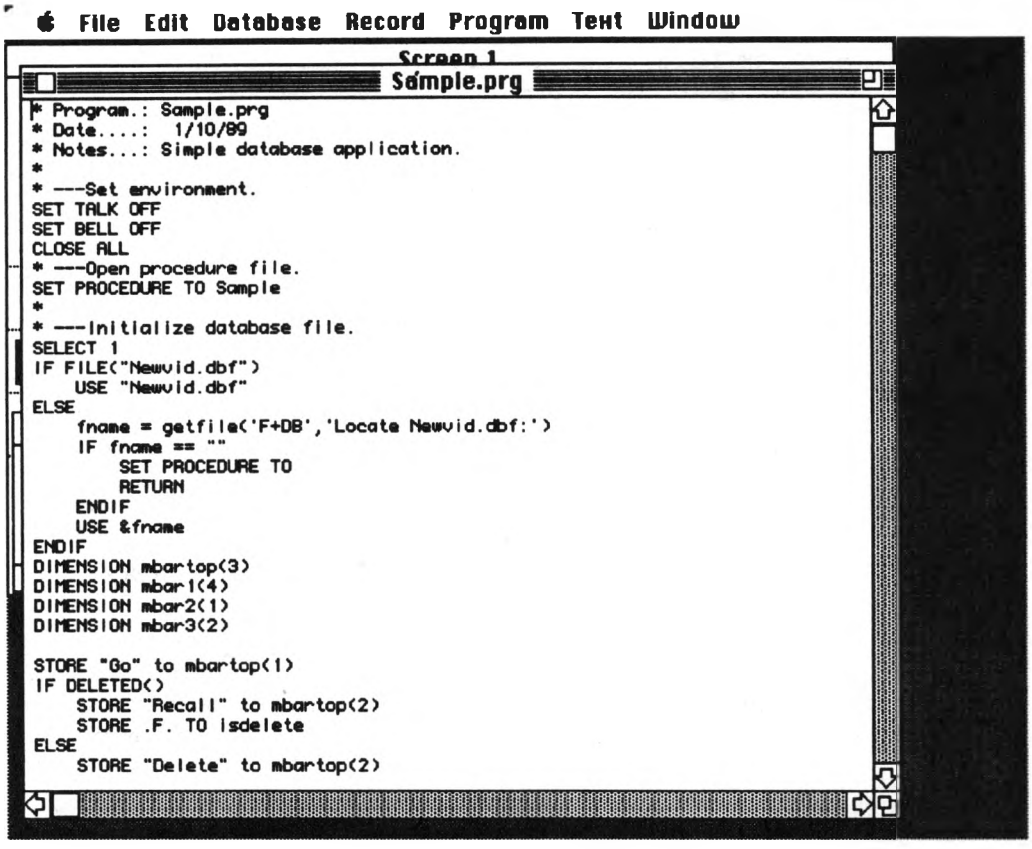
FoxBASE+/Mac can be used like *FileMaker II* for simple flat file information projects but it is much more suited to the development of turn-key stand-alone database management systems with custom menus, buttons, dialog boxes, input screens and reports. The development environment offered by *FoxBASE+/Mac* is superb. You may have many windows open at the same time, each showing a different aspect of the development project. For example, program code segments can be in individual windows where they can be viewed and edited. The various user input screens can be displayed, and a **Browse** window allows you to view all the records in the database. Here you can edit them or watch them change during program execution. In addition there is a **Debug** window that displays the changing values of specified program variables and a **Trace** window that indicates the particular line of code being executed and its context. Both windows display their results in real-time while a program is running.

One of the most innovative *FoxBASE+/Mac* windows is the **View** window where you can see the status and structure of your working environment at a glance. Here you can see all of the open files, how they are related and if they are indexed. Just by pointing and clicking, you can change relations, indexes, and all of the environmental settings (such as the Bell, the default drive, the date format, or screen colors). You can even rede-

fine all of the function keys on an Apple Extended Keyboard.

For oldtimers who are used to writing *dBASE* code on MS-DOS machines there is the **Command** window where you can type in commands for immediate execution. This is like the old fashioned dot prompt in *dBASE III*. The **Command** window also doubles as a handy learning tool for Macintosh lovers who have somehow avoided the MS-DOS world entirely. Whenever you make a menu selection or interact with a dialog box, your choices are echoed in the **Command** window as executable *dBASE* code. Using this feature you can click your way through various operations, like setting up database relations or indexes and watch as *FoxBASE+/Mac* creates the *dBASE III* code representing the same actions in the **Command** window. The **Command** window retains all of the commands in the current session as a scrolling list. It's like a macro recorder that is always running in the background. Lines from the **Command** window can easily be copied into a program under development using standard Macintosh copy and paste techniques, thereby saving typing time and eliminating typing errors. Also, if you want to retry a command all you do is click on it in the **Command** window and press Return. The command line will be copied to the end of the list and executed.

Whenever you create a program or make changes and rerun an existing program, *FoxBASE+/Mac* "compiles" it. This isn't real compiling as in Pascal or C but a kind of "tokenizing"; an abbreviated form of code that is optimized to run under *FoxBASE+/Mac*. This is part of the secret of *FoxBASE's* speed of execution. The other part is Fox's proprietary indexing system. The Mac indexing method is said to be even more efficient than the latest MS DOS algorithms.



FoxBase+/Mac: Procedure Editor

This is a luxurious development environment for any programmer but the best part is the way *FoxBASE+/Mac* builds on the already well established world of *dBASE III*. It retains *dBASE*'s strengths and adds dozens of enhancements. In addition, there is reasonably complete support for the Mac toolbox with its various buttons, dialog boxes, and other graphic tools.

The Mac interface is not as easy to program in *FoxBASE+/Mac* as it is in *HyperCard*. For example if you want to display an arrow button that displays the next record when clicked, you must refer to it by its PICT resource ID number in a rather cryptic **@SAY...GET** command. *FoxBASE+/Mac* is not for computer programming novices, but

it should attract a healthy following of custom application developers on the Mac.

Running MS DOS dBASE III Applications on the Macintosh

When you want to port an MS DOS *dBASE* application over to FoxBASE on the Mac, you begin by getting the native MS DOS files onto a Mac disk (using a modem or TOPS, etc.). After starting *FoxBASE+/Mac* from the Finder, you simply select the **Do** command under the Program menu. A dialog box appears with all the MS DOS files displayed. All you need to do is select the program you want to run and sit back. *FoxBASE+/Mac* automatically converts the code to Mac format, re-indexes the files, and runs the program. An MS DOS screen display appears in a new window with monospaced Monaco font and the program usually works. If the converted DOS program made use of typical reverse video menu prompts, these are all present and work exactly as you would expect by pressing the arrow keys to move the "light-bar" and pressing the Return key to signify your choice. However, *FoxBASE+/Mac* has added another nifty feature: if you use the mouse to point and click on your selection the light bar follows your mouse clicks. Also a double click on a menu choice will select it. This is an excellent marriage of the MS-DOS and Macintosh worlds and Fox software deserves a pat on the back for their clever implementation.

Problems

FoxBASE+/Mac is a relatively new product and it has its share of bugs and unfinished features. For example, there are still a number of problems with printing. Unless you want rather dry MS DOS style reports in a monospaced font with 66 lines per page, you will have to wait for version 2.0 which will contain a report and screen painting tool to simplify the creation of data entry screens and reports.

The Screen and Report generator in version 1.1 of FoxBASE.

The programming language of *FoxBASE+/Mac* is not new. Unlike HyperTalk which is one of the more modern, innovative programming languages on the Mac today, *FoxBASE+/Mac*'s language has its roots in *dBASE*, which is almost ten years old. The language of *dBASE* is powerful if you know how to use it, but there is a steep learning curve if you are new to programming. However there are dozens of books on *dBASE* available to help you up that steep hill. Although it has plenty of power, (more than HyperTalk in many cases) *FoxBASE+/Mac*'s version of *dBASE* still imposes many old fashioned concepts like fixed length variable names and very arcane code segments. For example to put a standard Macintosh checkbox on the screen next to the word "Posted" you would write:

```
@ 4, 15 GET posted PICTURE
    "@*C Posted"
```

Granted, you get your checkbox with this one simple line of code but it is not obvious by looking at it. In this command the first two numbers represent screen row and column positions which are determined by the width of the letter "n" in the screen font being used. This is a real indication of the MS DOS origins of this program, however the more conventional Macintosh pixel locations may be also be used if desired. The GET command is used to get information from the screen. In this case a mouse click over the checkbox will toggle the value of the variable named "posted" between True or False. Note the mysterious collection of characters after the word PICTURE. This is how you specify a checkbox to appear on the screen next to the word "Posted." Obvious, right? Once you know the code. The PICTURE clause is new to the Mac world but is extremely powerful for alphanumeric data entry as it allows very easy data checking and standardization at the moment of data entry.

The documentation that comes with *FoxBASE+/Mac* does not have many examples of FoxBASE code. The tutorial takes you through the manual operation of the program but stops short of discussing how to create stand-alone applications by writing your own programs. The best way to learn how to program in *FoxBASE+/Mac* is to import several MS-DOS applications into the Mac and examine how they were done. You can easily copy and paste code segments from other applications into your own programs.

A multi-user version of the program is available now from FoxBase while a runtime version of *FoxBASE+/Mac* is not presently available but will be coming soon.

Fox Software is a very successful company in the MS DOS world and I found their customer support to be simply the best I have ever experienced. Whenever I called, they would take my number and call me back to discuss the problem, sometimes within a few minutes. I never was put on hold and problems were discussed "on their dime." Twice, they have sent me recent versions of the program on disk by Federal Express Overnight Letter. If you are a vertical application developer (or want to be) and particularly if you are currently developing *dBASE* or FoxBASE applications in the MS DOS world but would like to break into the Macintosh market, you will feel very comfortable with *FoxBASE+/Mac*. There are still a few bugs to be chased out of the program but judging from the quality of the product in its first release I suspect that *FoxBASE+/Mac* will mature into one of the most popular relational databases available for the Macintosh computer.

Conclusion

No one knows what the future will bring but if you need a database program to manage information on the Macintosh today you cannot go wrong with either *FileMaker II* or *FoxBASE+/Mac*. If your needs are very modest, you can probably just use *HyperCard*, but if you need to extract information satisfying multiple criteria and you want to see your data in beautifully printed reports, you should consider *FileMaker II*. If you want to computerize your whole business and run it on a Mac you should look into having a custom system designed in *FoxBASE+/Mac*. Both of these packages will probably be around for a long time and their continued popularity means that your software investment will not be wasted.

FastTrack Scheduler

by David H. Minton

Introduction

With a title like *FastTrack Scheduler*, I wasn't sure what to expect. It sounded useful, particularly since at my job, I spend a lot of time behind. I waited patiently while Amy explained the software. After her presentation, I began to consider how could I use it. "Why don't you try it," she suggested. Always anxious to find ways of making my job easier, I tried a Beta version. I immediately discovered it did not make my job easier. It did not support the **Save** under the **File** menu if you closed a file. Hence, I discovered the hard way, that I was not saving my work. Anxious, I called Amy to see if it was all a joke. She laughed, said something about the fact that this showed that developers usually didn't know how to use their own software, and the "check was in the mail". Somewhat mollified, I went off on a trip to California. When I got back, there in the mail was a new beta version. In spite of myself I grinned. I hadn't yet even bought the software, and I was getting better customer support than from a lot of companies whose software I'd bought. The new version was a bit more refined and I could easily save my work.

What It Does

FastTrack Scheduler makes schedule charts. It supports a standard Mac interface, with scroll bars, windows, pull-down menus, and command keys. It uses a MacPaint-like interface to make Gantt type presentation schedules. It is important to recognize the definition of a schedule, as defined by this software. A schedule, according to *FastTrack Scheduler*, is "...a worksheet for creating and updating bar-chart types of graphs". This definition would certainly make old Henry (L. Gantt) happy.

As noted in the manual, it supports "scheduling, tracking, organizing, presentations, importing, and exporting." The current version does not interface with resources which impact the schedule, e.g., dollars, time, personnel, contracting, procuring, quality engineering, deliverables, sub-contractors, nor importing and exporting, but future verisons are *scheduled* to have these capabilities. Eventually you should be able to interface through the Gantt interface to the resource data base to identify conflicts and problems.

But if you need a Gantt chart for the original purpose: to show when each activity begins and how each activity is either dependent on or relates to some other activity, then *FastTrack Scheduler* will work well for you. Whether or not project costs can be estimated more accurately and program risks are acceptable depends a lot more on your skill than on *FastTrack Scheduler*. The problem is that the charts themselves, whether done by *FastTrack Scheduler* or by hand, are limited in the help they can provide, unless additional detailed information about each task and its relationship to the others is readily available.

The traditional directions for creating a Gantt chart include the following steps, (which are easily accomplished with *FastTrack Scheduler)*: (1) identify and list all of the elements (activities, tasks, procedures, events); (2) estimate the time to complete each task; (3) put this sequence in some time order; (4) order the tasks according to which can be performed simultaneously and which must be performed sequentially; (5) set a date (fixed and/or tentative) for the entire project; (6) do the same thing for each element; (7) put it all together in a chart; (8) display or present it.

How It Does It

You create the chart by opening the software. The first thing you will have to do is create the activity data by entering it in the horizontal axis. It is entered in an outline

form, in individual boxes, with each of the sub-headings indented about 3 spaces. You cannot position the activity text as you will, but must follow this format. These boxes are such that you can change and maneuver the size of them to permit more or less information. Also, you can enter a wrap around field anywhere on the schedule, and you can enter any word data in this field. You can create as many of these as you feel are necessary to present the schedule. A dialog box under the File menu will allow you to set the time (horizontal) axis in units of years, quarters, months, weeks, days, or generic. Once you have created the basic chart, with all of the information along the time and event or activity axis, you will want to enter the actual schedule data. This is done using a tool box. The tool box is available using **Command-T** or pull-down from the menu. The tool box allows you to perform basically three activities: (1) type alpha-numeric entries into boxes which can be located anywhere on the chart; (2) make schedule entries on the chart which will normally have start points, stop points, bars, and milestones; (3) tailor each of these types of entries, including making your own start, stop, and milestone icons using an abbreviated *MacPaint* like window.

The point of a Gantt chart is for you to easily visualize the schedule and the relation of the particular events to the schedule. AEC ***FastTrack Scheduler*** provides a standard Gantt type of interface with a variety of tools which allow you to use a variety of start/stop markers and so forth, making this job as easy as possible. AEC also supports color presentations, if your Mac is capable of it. You can also save the completed schedule to the clipboard as a PICT file. Then, as with any PICT file, you can further edit the program or cut and paste it into a more sophisticated program for further modification or integration.

What It Is

The software comes packaged loosely in a sturdy box, with the actual disc located in the back of the extensive manual. The manual is focused on the actual command events and adequately covers all of the software capabilities. It is thorough insofar as it relates to the specific command events, but weak since it does not always tell you why those capabilities may be of concern. This means that you have to spend some time with it before the actual use so all of the events will be meaningful to you. Some of them may, of course, never be meaningful. The manual provides both user descriptions and a tutorial. It is heavily illustrated with examples and screens from the actual program. It has an extensive index, which makes it easy to pin-point information. In addition, there is a section called Handy Hints, which covers some short cuts and options not readily apparent using the software. No system folders or files are present on the disk, only the application software (which occupies about 267K) and a sample schedule. The software is not copy-protected. The software also offers a good growth path, for it will eventually support importing and exporting of data and relationships to data base elements. It fully suports the Mac Clipboard, you can make a PICT file out of any chart and paste it to any program which will support this capability.

FastTrack Scheduler

AEC Management Systems, Inc,

20524 Amethust Lane

Germantown. MD. 20874

301-428-3694

$195.00.

Commercial

Conclusion

If your work requires frequent activity in managing and revising schedules, or if you are frequently re-programming from program to program, if you are forever changing your money line and schedule, then this is a program for you. If the resources you are managing lend themselves to presentations along a time axis, then this software will be doubly useful for you. If you have to brief these changes in schedules to superiors or reviewers or approvers,or if you need simplified presentations, or if you need the flexibility for more complicated annotated programs, this is the program for you.

Floppy Floozie Rides Again...

or I Survived the Virus, and So Can You.

by Ellen Chait

This is embarrassing. I mean, how does one explain? Especially after spreading my bad fortune to others. I'm basically a nice girl—a little loose, a little wild, maybe, but Viruses? Me?

I have to admit that I wasn't exactly a total innocent, or a puritan about where I put my floppies. I'd had my little flings: a few games in Basic, Commadores (I know, but I have a kid), a few clones, a lovely Apple IIe, but none ever became that serious. And then Mac came into my life. And my heart was gone.

I came into the Mac world backwards—I was writing about it before I had my hands on it. I'm surrounded by power users: developers, columnists, major culture heros delighted to share conversation, technique, insight. And I am always greedy to learn, and communicate. So I've had fabulous toys to play with, and pieces of hardware and software to review, and new products way before they're on the market: updates of old favorites, new wonders, creative, flaky, experimental, brilliant, idiotic. The materials are irresistable: a new disk, and in it goes—or it used to (I have learned a lot of lessons this spring about being a floppy floozy).

So it happened. I got a virus. And I brought it in to work, where it spread to three other machines. *Scores*—one of the earliest Mac viruses, and one of the easiest to deal with, more or less. This only took me most of a week. It could, with preparation, take a couple of hours.

I'd like to blame my friend who was writing a book on viruses. He really was sticking his disks all over—into everyone's viral protection programs (very easily infected, since they interact with that level of applications) and, I'm sure, looking at any viruses that he could see. Then he wrote several chapters on the same Plus that got infected the next month. I'm sure he infected it. Sure. Or that big developer who's rumored to have sent out 800 infected disks—we have lots of early preview disks from him. Or that laser parlor. Or that party...enough! You know these are only rationalizations, excuses for loose behavior.

The first symptoms we suffered were an increasing number of bombs. The printing got thouchy. *PageMaker 3.0.1*, always sensitive, was a real pit—it takes long enough to do anything with 50 to 100 page documents even without the application bombing every 20 minutes, or each time you save. After a couple of weeks, the computer refused to print completly. I called BMUG, and they suggested I check for viruses. I scoffed. But I pulled out the viral checkers my friend had given me, and there it was: *Scores*. The first rule in any crisis: don't panic. Ha. You will panic. Everyone you work with will panic. It's okay to panic. Just don't stay panicked. This is more than a cautionary tale about where you dip your disks. I cleaned the virus out of these machines and lived to tell about it—and so can you, if and when it happens.

First, **before it happens**—have backups. Backup your system. Backup your applications. Backup your documents. It's a pain. It's not as bad a pain as losing it all. I used to backup rarely. Now I do it several times a day on my important documents. If you didn't have backups before you were infected, backup now. Test your applications and backup those that test clean, but **don't** trust them until you've thoroughly tested the floppy again. I've seen programs get too messed up to even copy correctly, so don't trust that you can do it if you have a problem. I've seen lots of drives blown from non-viral problems as well, and lots of information lost forever. Do it now.

Next, install the viral applications on BMUG Utility 8 as prescribed. Put *Vaccine*, *Agar*, etc. in the system folder. Run them all.

Do not think that running one is enough. Even if you think you have identified all the viral infections, run the rest of the checkers. I found that depending on just one or two tests missed some infections. I've never seen an infected document, and I gather that Mac viruses are not yet able to damage documents. But IBM viruses do, and Mac's will eventually. If you have to reformat, you'll lose everything that isn't backed up.

Always have the most recent BMUG viral fighter disk. Update frequently. My first try at cleaning up a computer was a total disaster. I had an **old** viral disk, with out-of-date articles that explained that the only way to deal with viruses is to eradicate infected files (and just had applications that did that). Or I could have used the dread *ResEdit*. So I ran *Interferon 1.0*, and let it root out the infected files. It was Friday night, and my backup disks were at work. *Interferon* **kills** your application, so I spent the whole weekend without a word processor, drawing program or *HyperCard*. And the computer still didn't work right. *Interferon* had not killed most of the virus. It did not see all the infected code, I found, when I ran several other viral fighters.

Third, have the most recent *System* to reinstall in your hard drive. If there is a virus on your drive, the *System* is corrupted. Guaranteed. The *Finder* is the first thing to be infected. (Quick test: if you suspect that you have a virus, look in your system folder. If your *Notepad* and *Scrapbook* icons have turned to dog-eared document icons, it's a virus.) It seems the way a virus works is, it goes hunting whenever its host is activated, and will pass to whatever else is active and vulnerable. The *Finder* is always right there, waiting—generally it's one of the first files affected. So it won't hurt to have a backup *System*, and it helps to have the most recent *System* to install. I used to be scared of upgrading the *System*, but now I've learned to appreciate it. There really are improvements. Even the difference between 6.0.2 and 6.0.3 can be significant in helping things run better.

So if you've prepared yourself, either in advance or now that you need to, boot up with a floppy. Test that floppy before you do anything else. Don't use the system disk you plan to install at this point, since it's very likely to get infected immediately. **Destroy** those files still infected. Destroy your *System*. Trash it. Don't just run the *Installer*. This will not root out the damaged code. Trash the *System*, the *Finder*, *Multifinder*, *Scrapbook*, *Notepad*, anything that you know or suspect is infected. (It helps to have your fonts and DAs in suitcases, rather than in the *System*, since that way you don't lose them with the *System*.)

You have to really hunt and destroy—*Ferret* can clean *Scores* out of many, but certainly not all, applications, leaving you with the original, healthy file. (Running under *Multifinder*, *Ferret* thinks an open application is damaged, which will drive you nuts, so run with nothing else open.) Use a combination of *Ferret*, *Interferon*, and *VirusRx* to find all the damaged files. My problem was specifically the virus *Scores*, you may have something else so try the other virus fighters as well. You may even have more than one problem!

Forth, restart and install brand new System files. If you get lucky, as I did on one of four machines, this will be enough. If the infection didn't do much damage, you might be able to get away with this. And everything will work better than it has for a while.

But the sad truth is, be prepared to reformat your hard drive. I did this on three machines, and found it extremely stressful the first time—unnecessarily so, I know now. The first reformat took a day and a half, copying everything, formatting backup disks on the one uninfected computer in the office (you know, the one without a hard drive—the only time this has been an advantage). The succeeding computers only took about an hour and a half, because I was organized by then.

Reformatting the hard drive has its advantages. If you've had your Mac a while, the drive is probably a mess, even without the virus. When you load anything onto a hard disk, it loads in the first space it finds that the directory tells it is free. If that's not enough space, it goes to the next piece of free space, and then the next, resulting in fragmented files. Hopping around a fragnebted hard disk

hardly speeds things up, so reformatting does have the advantage of defragmenting your disk, which will improve performance.

It's also an opportunity to get to know what's cluttering your machine. You should only have one *System* file, for example. If you're like I used to be, you loaded another *System* each time you installed a new application.

You'll find all those lost documents—how did the letter to your brother land in the *Mathematica* folder? Never was good at math. You probably have a lot more room than you thought. You'll love your hard disk after you've rebuilt it correctly.

Finally, now that your computer is clean and organized, keep it that way. Install those BMUG viral checkers, *SAM*, *Virex*, whatever you can get. And *Symantec Utilities (SUM)* can assist in protecting as well as organizing your hard drive, and can be used to rescue information before reformatting.

When you get a new floppy with a new toy, **Test It**. Even from the store, right out of shrink wrap. It happens to the big companies, too, and there are many stories (maybe apocryphal) about infected new disks. It happens to the best of us—maybe even more, since these are the most creative, the most experimental, the most curious, the most vulnerable. Apple has been infected, the captains of industry, the big guys and the little. And if you're prepared, it hardly hurts at all.

As of this writing, Disinfectant 1.1 *seems to be the most complete.*

—Ed

SAM Intercept:
Symantec Anti-Viral for the Macintosh
Symantec

Disinfectant 1.1
Interferon
Ferret
VirusRx
all available on ***BMUG Utility Disk 8***
Publicly Distributable

A Marriage Made in Software Heaven

by Barry Shell

What if you could create business applications with the world's most popular development language on the world's easiest-to-use computer? FoxBASE on the Macintosh now provides this excellent programming environment. As IBM, Hewlett-Packard, and Microsoft rush to introduce their graphic interface operating systems, the Macintosh computer is emerging as a genuine trend setter. Meanwhile, *dBase* still reigns supreme in the microcomputer world as the most popular database development system. Fox software of Perrysburg, Ohio has recently introduced *FoxBASE+/Mac* Version 1.1. It enhances the power of *dBase III* while providing a graphic interface that generates *dBase* code on the Mac. This combines the best of both worlds: easy to use point and click programming and powerful widely accepted *dBase* applications.

I will demonstrate the way Fox has managed to integrate *dBase* with the Mac's powerful graphics abilities by showing, step-by-step, how a custom screen is generated.

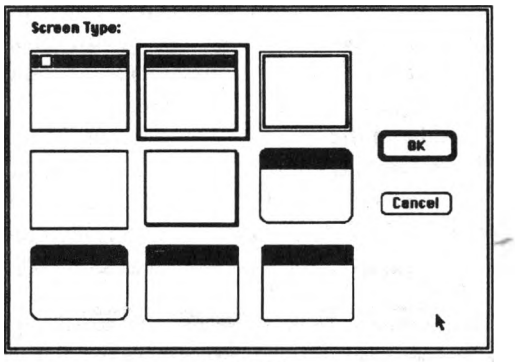


Figure 1

To begin designing a data entry screen you first choose the type of window that will be employed. Figure 1 shows the nine choices presented to you by *FoxBASE+/Mac*. Just click on one and it's defined. Next, you specify the size and position of this window as shown in figure 2. The window can be moved and resized by typing numbers into the size and position boxes or by physically clicking and dragging the miniature image of the window around with the mouse, in which case the numbers are automatically updated for you. Note that you can specify the type of computer monitor on which your application will run. If you are working on a color system, additional choices for coloring the screen are also available.

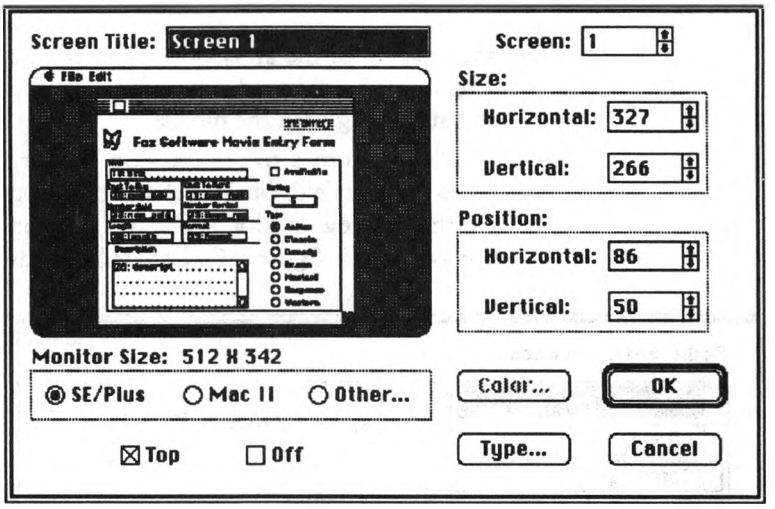


Figure 2

After the data entry window shape and position has been specified, the fields, buttons, graphics and other objects can be placed on the screen by selecting the tools along the left hand side and simply drawing them onto the screen (see figure 3). For example, when you first select and draw a radio button (a classic Macintosh interface element for indicating one choice out of a group of possibilities, i.e. the type of movie) a dialog box like the one in figure 4 appears. Here you must enter the possible options (button names) and specify a field or variable that will receive the result of the choice that the user makes. You can also declare which one of the group of radio buttons will be hilighted as the default choice. The position

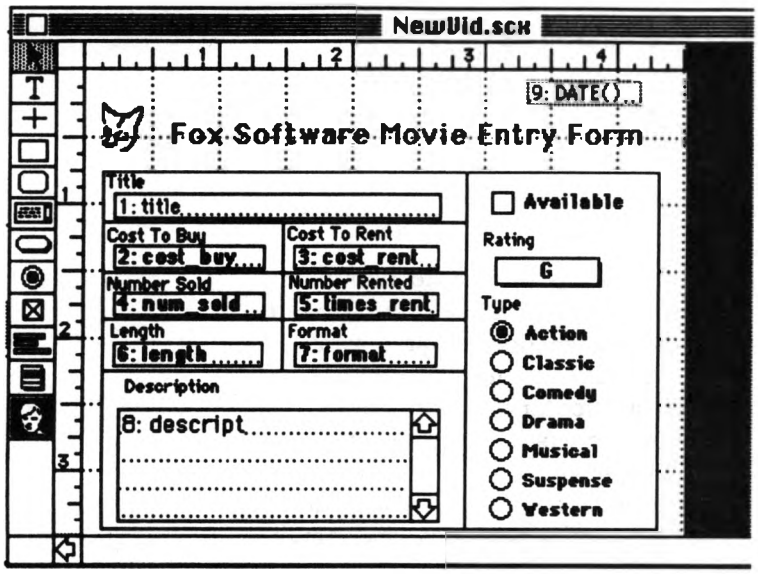


Figure 3

and spacing of the array of buttons on the screen can be changed simply by dragging and stretching with the mouse.

When it comes to the creation of entry boxes for data fields (like the movie title) you use the text region tool. It displays a dialog box as shown in figure 5. Old *dBase III* hands

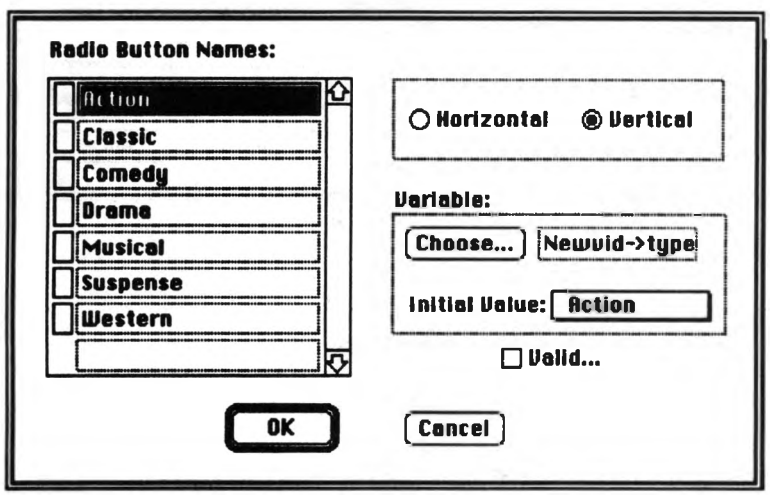


Figure 4

should feel a warm glow as the familiar words "SAY" and "GET" appear on the screen. At this point you must type in the name of the variable or database field whose data is to be displayed in the newly created box. If you can't remember all your fields and variables, clicking on the "Get" button brings up another window as shown in figure 6. Here you can point and click on the field you want. All fields of all open databases as well as any predefined memory variables are available. In figure 5 you can also specify lower and upper ranges for the data entered as well as a validation formula. In addition any formatting of the data can be defined in the format line. These formats follow *dBase's* PICTURE command syntax. With all this validating and formatting power, you can be sure that your database will contain consistent error-free data.

In addition to the screen elements described above, there are scrolling lists and

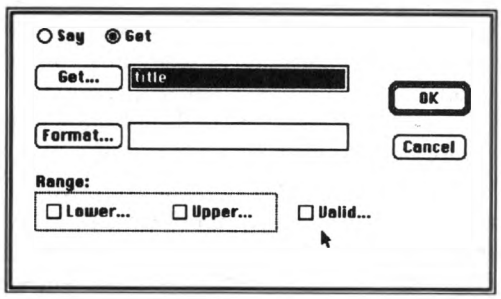


Figure 5

text blocks, pop-up menus, picture buttons, regular buttons, checkboxes, pictures, text and various other graphic elements. All of these can be given attributes of style, alignment, font type and size, color and pattern.

When all the fields, buttons and graphics have been drawn on the screen it's time to generate a format file that can actually be used by a *FoxBASE+/Mac* program. Your final screen definition might look like the one in figure 3. Choosing the Generate command from the Program menu results in the dialog box shown in figure 7. After a couple of mouse clicks and a delay of about four seconds *FoxBASE+/Mac* automatically cre-

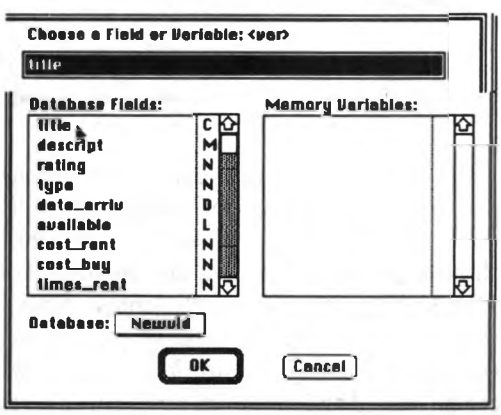


figure 6

ates a format file like the one shown in figure 8. Anyone familiar with *dBase* will recognize this as ordinary *dBase* code for displaying information on a screen (with several powerful extensions that take advantage of the Mac's graphics). All the objects that were defined in the screen layout window are translated into

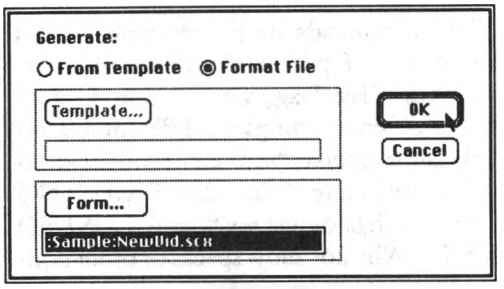


Figure 7

working *dBase* code in the format file window. (Note: not all lines of code defining the movie entry form are shown.)

After the appropriate database has been opened, this format file can be run by typing "`DO NewVid.fmt`" in the command window. The resulting screen is shown in figure 9. Compare this screen with the one defined in figure 3. The code for this screen can be called by a main program or copied and pasted into any other program file. Changes can be made to the actual code to alter fonts or screen positions without going through the longer (but easier to comprehend) process of editing the graphic objects in the screen layout file and regenerating the format file. If you want to learn how to create screens in *FoxBASE+/Mac* by writing the code directly, simply spend a day designing and modifying screen files and comparing them with their respective format files. It doesn't take long to figure out how to write your own code if you want to hack out screens directly.

True hackers will have a field day when they realize that *FoxBASE+/Mac* even provides a utility for creating customized code generation templates. Included in the *FoxBASE+/Mac* package (Version 1.1) is FoxCode, a complete template language and compiler that gives you the power to create your own individual code generating modules that can be used in place of Fox's form generator. This custom code generation facility of *FoxBASE+/Mac* has no limit. If you know what you're doing, you can use it to

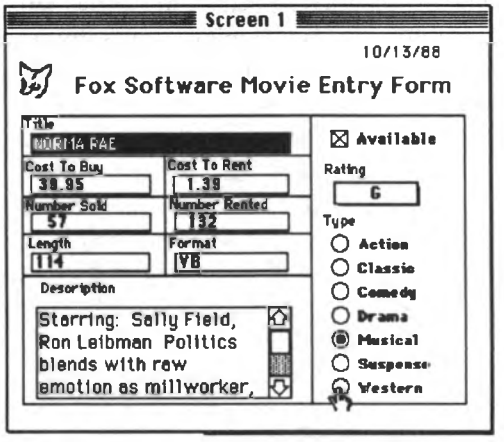


Figure 9

create complete working applications just from screen layouts and their associated database files.

The more I work with *FoxBASE+/Mac*, the more I'm amazed by its power and flexibility. For example, it has the best debugger I've ever seen. But the most inspiring thing about this program is the way it manages to bring together the two major players in the microcomputer world: MS-DOS and Macintosh. If you are sitting on one side of the fence, take a look at FoxBASE+ on the Mac and see what you are missing. Programmers in both camps should be suitably impressed.

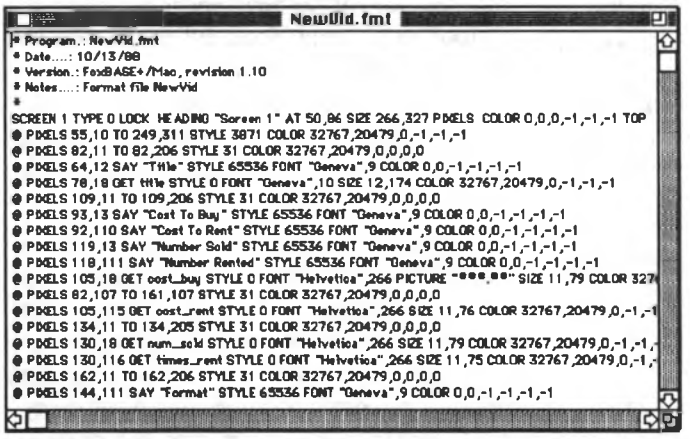

NewVid.fmt
* Program.: NewVid.fmt
* Date....: 10/13/88
* Version.: FoxBASE+/Mac, revision 1.10
* Notes...: Format file NewVid
*
SCREEN 1 TYPE 0 LOCK HEADING "Screen 1" AT 50,86 SIZE 266,327 PIXELS COLOR 0,0,0,-1,-1,-1 TOP
@ PIXELS 55,10 TO 249,311 STYLE 3871 COLOR 32767,20479,0,-1,-1,-1
@ PIXELS 82,11 TO 82,206 STYLE 31 COLOR 32767,20479,0,0,0,0
@ PIXELS 64,12 SAY "Title" STYLE 65536 FONT "Geneva",9 COLOR 0,0,-1,-1,-1,-1
@ PIXELS 78,18 GET title STYLE 0 FONT "Geneva",10 SIZE 12,174 COLOR 32767,20479,0,-1,-1,-1
@ PIXELS 109,11 TO 109,206 STYLE 31 COLOR 32767,20479,0,0,0,0
@ PIXELS 93,13 SAY "Cost To Buy" STYLE 65536 FONT "Geneva",9 COLOR 0,0,-1,-1,-1,-1
@ PIXELS 92,110 SAY "Cost To Rent" STYLE 65536 FONT "Geneva",9 COLOR 0,0,-1,-1,-1,-1
@ PIXELS 119,13 SAY "Number Sold" STYLE 65536 FONT "Geneva",9 COLOR 0,0,-1,-1,-1,-1
@ PIXELS 118,111 SAY "Number Rented" STYLE 65536 FONT "Geneva",9 COLOR 0,0,-1,-1,-1,-1
@ PIXELS 105,18 GET cost_buy STYLE 0 FONT "Helvetica",266 PICTURE "@$ 99.99" SIZE 11,79 COLOR 327
@ PIXELS 82,107 TO 161,107 STYLE 31 COLOR 32767,20479,0,0,0,0
@ PIXELS 105,115 GET cost_rent STYLE 0 FONT "Helvetica",266 SIZE 11,76 COLOR 32767,20479,0,-1,-1
@ PIXELS 134,11 TO 134,205 STYLE 31 COLOR 32767,20479,0,0,0,0
@ PIXELS 130,18 GET num_sold STYLE 0 FONT "Helvetica",266 SIZE 11,79 COLOR 32767,20479,0,-1,-1,-
@ PIXELS 130,116 GET times_rent STYLE 0 FONT "Helvetica",266 SIZE 11,75 COLOR 32767,20479,0,-1,-
@ PIXELS 162,11 TO 162,206 STYLE 31 COLOR 32767,20479,0,0,0,0
@ PIXELS 144,111 SAY "Format" STYLE 65536 FONT "Geneva",9 COLOR 0,0,-1,-1,-1,-1

Figure 8

Barry Shell is a computer consultant in Vancouver, Canada. His two year old company, SoftShell Small Systems Software Design Incorporated (604-876-5790), specializes in custom application design and training for Apple's Macintosh computers. In 1986 Barry won first prize in Microsoft Canada's Excel Macro writing contest with an easy to use Mailing Label macro. In 1988 he wrote two books on HyperCard, Concise Guide to HyperTalk *and* Running HyperCard with HyperTalk *published by MIS Press. In additon to a number of custom software development projects, Barry is currently the Research Editor for the Centre For Systems Science at Simon Fraser University in Vancouver, B.C.*

Omnis 5

From A Business Manager's Point-of-View

by Tom Martin, Jr.,President, Enermorphics Corp.

I received *Omnis 5* yesterday. It was an upgrade to my *Omnis 3.2* that I had relegated to the closet long ago. The manuals weighed in at seven pounds. Along with the three main manuals, there was a small "Pocket Reference Guide" binder with all the *Omnis 5* operations and commands listed. It was fancy with padding and shiny metal corner protectors. It looked like it should belong to a doctor or lawyer. At that point I knew I was in trouble. In my opinion, any software whose manuals weigh more than three pounds and has a fancy look to its reference book is in the snake oil business.

I loaded four diskettes, about 2.5 Meg, onto my hard disk. I launched *Omnis 5* and started looking around. It wasn't very long before I gave up and opened the "Getting Started" Manual. I followed their example in setting up an application for writing letters.

The first problem that I encountered was entering field names. Spaces are not allowed. So, the underline character is used. On most computer keyboards you have to use the shift key to get the underline, even when caps lock is on. So, why must I go searching for the Shift Dash key every time I need an underlined space in a field name? It seems to me that in this age of computers that if all spaces in the field names are to be underlined, then the space bar should do the underlining!

It was nice to be able to draw windows and buttons in *Omnis 5*. But, some things did not work the way I expected. When I clicked on the tool box it did not come forward. You have to use the **Command-6** key to do that. This is fine if the tool box is hidden, but constructing a window is a mouse job. It seems to me that a designer would usually leave a tiny piece of the tool box showing from under the window he is working on so that the mouse would bring it forward.

The arrow keys seem useless in *Omnis 5*. They do not do anything in the places where I expected them to work.

The commands are the same old Omnis commands of past eras. All those secret messages. Flag Flag, what is that Flag, it means different things in different places! Only those people "in the know" can decipher a procedure. "Calculate F_CUSTNO as #S5". Why not just say "Set F_CUSTNO to #S5"? Why not allow spaces or other non-alphabetic characters in field names?

All you programmers who know Omnis think my comments on the language are so much bunk. Actually, its complicated language is saving your jobs and leaving managers behind the software curtain. A language or procedure that I find non-intuitive and hard to learn I will easily forget. Therefore, even if I did finally complete an *Omnis 5* application, I would not be able to modify it in a few months time without starting all over again.

This leaves Omnis applications to Omnis programmers. They must decipher what some manager is trying to obtain from his data. They then present the manager with their interpretation of his needs. And they have to change and modify the program over and over again because their interpretation was not right or, because the manager really needed a different presentation or a different selection of his data than he originally requested. Maybe his new report has lead him to look at his operations differently and he now needs different reports.

Anyway, back to *Omnis 5*. Given Omnis commands as they are, entering procedures is something else again. There are two modes for entering commands in a procedure.

First you can select the commands from a list. The list has headings which can be double clicked to produce sub lists, some of which can be double clicked again. Therefore, if you can't find what you need on the first try, you get to double click on as many other topics as you have time for in your effort to try and find the command you need.

Second, you can start typing the command directly. Your typing does not show. Instead, each character you type causes the Command List to scroll through main and sub topics. After each typed character, *Omnis 5* checks to find the first command in its list that matches all the characters typed so far. It then places that command on your procedure line. You can stop typing and use the presently shown command at any time. There comes a point when no more commands will fit the characters typed so far. Further typing results in beeps and the last command shown remains.

This method of typing in commands does not work all the time. Sometimes the commands will not be placed in the blank procedure line that you intended. They are placed in another existing command line elsewhere in your program that matched your typing. That existing command gets modified instead. I got to places where I could not locate the command in the list and I could not get *Omnis 5* to stop jumping to another line in my program when I tried to type in the command. I quit at that point.

Along the way I tried to enter comments in my procedures but could not. I looked in the table of contents of all three manuals and found no mention of "comments". Then looking through the programmers manual I saw an example where comments were proceeded by an asterisk. I tried typing an asterisk on a procedure line but it was ignored. Then I found that the topic "Message" had a sub topic "Comments". That worked. It even placed the asterisk on the line. But, it takes a lot of mousing around to click through the topics and then the click the text box just to enter a comment.

The people who wrote the manuals probably know *Omnis 5* very well. It seems to me that they guessed at what beginning *Omnis 5* users needed to see in a manual. In my opinion, they guessed wrong.

So, with some resignation I placed *Omnis 5* back into its box. I should have known better than to buy it in the first place. But, dreamers always dream that a better way of doing things has arrived.

In my opinion, *Omnis 5* is not for managers to fool with. Something probably most BMUG members knew all along. But, what a shame. Managers are the people who handle the information. Why can't they be privy to its preparation? Spread sheets have done wonders for managers with two dimensional data. They learn a lot about the dynamics of their area of responsibility just by creating a spread sheet. When necessary, they can play "what if" all day long.

Managers also need to play "what if" with their operating data. Managers need a (data base?) program that will allow them to "play" with their raw data much the way Excel lets them "play" with their summarized data. When someone creates that program, a world of managers will beat a path to their door.

The Joy of Upgrading

by Richard Gibb

"Upgrading" is an exercise that most Mac users are likely to undergo at least occasionally. My recent experience upgrading from *Microsoft Word 3.01* to *Word 4.0* may suggest a few pitfalls awaiting the unwary upgrader. As you may note from my comments on *Microsoft Word* elsewhere in this newsletter, I am a relatively long-time user of *Microsoft Word*. I have been both a lucky (no major problems with the buggy version of *Word 3* that was current from April through July of 1987) and (perhaps as a result) happy user of *Microsoft Word*.. Still, my most recent attempt at upgrading may contain a word of warning for the unwary.

The first thing worth recalling is the way in which Microsoft announced *Word 4*. In a press release dated May 31, 1988, Microsoft announced *Word 4*, describing it as "especially fast and intuitive," and listing its major enhancements as "Page View," "Tables," "automatic repagination," the ability to flow text around graphics, "full customizability [a word not recognized by *Word's* dictionary] of the user interface," "color," and a few other odds and ends. Though not so specified in that press release, it was also announced that purchasers (new or upgrading) would receive Silicon Beach's *SuperPaint* (version 1.1). Microsoft announced an upgrade price of $50 for those who "reserve an upgrade before July 15 [1988]" and $75 for those who upgraded later. Though I read this in Microsoft's press announcement, I didn't receive any announcement as a registered user until late April 1989, when Microsoft informed me that I could mail them $75 plus $5.50 handling and sales tax.

I was already aware that the price at my university bookstore for version 4 of *Word* would be $80. Since the bookstore staff assured me that the academic version was identical to the regular version, I decided not to send Microsoft my money. I preferred to wait for it to actually appear at the bookstore and buy and register the academic version. This turned out to have one small problem. Microsoft decided not to include *SuperPaint* with the academic package. At least a few of the bookstore staff still believed that it would be included; and I had purchased it with that understanding. Microsoft instead included a coupon with which the purchaser could upgrade to version 2.0 of *SuperPaint* for Silicon Beach's $50 upgrade price. When I called the bookstore to confirm my understanding that *SuperPaint 1.1* was to have been included, they suggested that I call Microsoft to ask about the missing copy of *SuperPaint*. When I spoke to someone in the *Word* support division, he had to check with someone else to find out why it was missing. He returned to the phone and indicated that it had been decided at the last moment not to include it in the academic version for cost reasons. When I pointed out that Microsoft had evidently informed university bookstores that they would be including *SuperPaint* and suggested that he could make me a happy customer by sending it to me, he agreed. My original purchase and phone conversations took place on May 4.

By the beginning of June, nothing had appeared. Neither *SuperPaint 1.1* had appeared from Microsoft, nor *SuperPaint 2.0* from Silicon Beach. Phone calls to Microsoft (no toll-free number; and you have to stay on hold and listen to muzak and a recorded message telling you to wait) on June 1 failed to connect me with anyone who could make any suggestion other than that I call a different department at another time. Finally, on Friday, June 2, I contacted Pam at Microsoft Customer Service. After listening to my story, she explained that there was no record of my conversation a month earlier and that Microsoft had never intended to include *SuperPaint* with the academic version. When I reminded her that at least one person at Microsoft had been confused about this and,

in any case, had indicated that Microsoft would send me *SuperPaint 1.1*, she decided that I should summarize my experiences in a letter and she would see what she could do.

On Tuesday, June 6, I went back to the bookstore to see if I could find the person who had indicated that *SuperPaint* would be included and suggested that I call Microsoft customer support, when it was absent from the academic version. He was not available, but of the other staff who were present, one didn't know whether *SuperPaint* was included and the other had learned only the previous day that it was not included. The latter individual, Rita Shaw, a new employee at the bookstore, decided to call Microsoft to see what she could find out. I was a little wary about this, given that I had already spoken with at least two different people at Microsoft, who had prescribed different solutions to my problem. I had already mailed my letter to the noncommittal Pam. Much to my pleasant surprise, Ms. Shaw worked out a very prompt and satisfactory solution almost immediately with Susan Ische on Microsoft's Sales Support staff. Ms. Ische indicated to Ms. Shaw that, since I had paid the same amount as would have with the standard upgrade to Word 4, she would send a complete upgrade package to the bookstore for exchange for my academic version. Microsoft would also send an additional package to replace the stock on the package I would return. The software would arrive next week.

I also called Silicon Beach on June 5 to find out what had happened to my order for *SuperPaint 2.0*. I was a little bit worried, since the check I had mailed a month earlier had not appeared at my bank. I was also worried that it might have gotten lost in the mail. I spoke to Joel there. He took my name and number and returned my call within 20 minutes to assure me that my order had been received and would ship within the next two days. When I asked if it would be possible for them to mail it to my P.O. box rather than ship it UPS (I live in a rural area and have no street address), he was more than happy to accommodate. That conversation was short, friendly, and informative.

The lessons to be learned from this are simple, I believe. First, when upgrading, try to get a written description of what is included in the upgrade package. This is clearly necessary with academic versions, which are sometimes described as complete versions with more modest documentation. As it becomes popular for manufacturers to include more inducements to persuade the customer to upgrade—as would seem to be the case with Microsoft's use of *SuperPaint*—it will be more important to understand exactly what is included in the price of the upgrade. Secondly, always get the name of the person you speak to. When I called Microsoft a month after my first conversation, the fact that I was unable to name the person I spoke to earlier must have made me seem a little less trustworthy. Thirdly, the contrast between my phone experiences with Microsoft and Silicon Beach would seem to suggest that there is a correlation between the size of the organization and the promptness with which customer problems can be resolved. Finally, don't give up. Software companies, even Microsoft, depend on their customers; and eventually you will find someone in the company who recognizes that fact. The place of user groups in the Macintosh community is likely to make software companies even more concerned with their image.

The Mac for Programmers

by Avi Rappoport

You've heard the rumors about how hard the Macintosh is to program, but that's only half the story. It may be harder to write **adequate** programs on the Mac than on other computers, but it is probably easier to write **really good** programs. What I mean is that on DOS machines, you don't have to worry about menus and mice and standard interface and letting the user control the program. You can just write an ugly interface and limit the user's options. If you do that on the Mac, no one will buy the program, because customer expectations are higher.

Read this article if you already know how to program, and you want learn how to make Mac programs. This is for people who have taken several classes and/or done some programing on other machines.

If you don't know how to program and want to learn, I have several suggestions. First of all, write a lot of scripts in HyperTalk. If you don't like that, you probably won't like programming. Second, get a good introductory programming text (I'm partial to *Oh, Pascal!* by Cooper and Clancy), or ask around for a good programming class. Be sure to check it out first with someone whose taken it, or knows about programming. Since you have a Mac, you should also look at *THINK Pascal* and *Just Enough Pascal*, from Symantec. *Just Enough Pascal* is for you, the beginner, if you want to learn Pascal on the Mac. But be warned, it doesn't cover some of the most important parts of Mac programming, including pointers and handles.

Important Macintosh Terminology

Macintosh Toolbox: A set of library routines which everyone except Microsoft uses. If you use these routines, you will both keep the interface standard and save yourself a lot of work. For instance, a call to **SFGetFile** will bring up the standard **Open File** dialog box, allowing the user to change drives and open folders, all without you doing any extra work.

Managers: subsets of the Toolbox for specific areas. There's a Resource Manager, a Window Manager, an Event Manager, and a Partridge In A Pear Tree Manager.

Event Loop: another part of the standard Macintosh interface. The event loop allows your program to get whatever the user is doing, and call the correct routine to deal with it. So it tells you if the user typed a letter, chose a menu item, moved a window, and so on. You may still have to do things about this choice, but input is taken care of for you. See below for an example of an Event Loop.

Handles: Has to do with memory management. A handle is a pointer to a pointer (yes, that's right), which is much more flexible in memory. You don't have to understand this now, but you do have to be able to use handles: see example below.

Books

Inside Macintosh, volumes I - V and X-REF. (Addison-Wesley). These are Apple's Toolbox calls, documented extensively. To program the Mac, you really must own them. They run $17.95 per paperback volume (X-REF is $8.95), and also come in looseleaf, and the first three volumes bound together as a large hardback. Buy them!

Macintosh Toolbox Revealed, by Stephen Chernicoff, volumes 1-3. A step-by-step exploration of Mac programming, written in a language closer to English than *IM* (*Inside Macintosh*). [Hayden Books, $18.95 per volume].

Macintosh Programming Primer, by Mark & Reed. An excellent book for C program-

mers who are new to the Mac. Presents a step-by-step tutorial on using *THINK C* to develop simple Mac programs. Provides numerous source code samples and a clear explanation of how to use *ResEdit* to create resource templates for windows, menus, etc. [Addison-Wesley, $24.95]

Programmer's Introduction to the Macintosh. Not necessarily worth buying, but a good explanation of the standard interface and how to make it. [Addison-Wesley, $16.95]

Apple Tech Notes. Macintosh System Information, Toolbox updates, bug warnings, and coverage of Apple Languages, distributed in hardcopy and on HyperCard. Available through APDA, various online services, and user groups. It's a very good idea to have these around whenever you're doing serious programming.

ObjectOriented Programming on the Macinotsh, by Kurt Schmucker, is a good introduction to OOP. Read the first section, but don't worry about **MacApp**. [Hayden Books, $35]

Books by Scott Knaster are really for advanced programming and debugging, even though they have great names.

Organizations

APDA (Apple Programmers and Developers Association). Apple's developer User Group. Publishes a newsletter concentrating on Apple languages and products, order information Apple technical stuff and languages, which are only available here. [APDA , Apple Computer, Inc. 20525 Mariani Ave., Mail Stop 33G, Cupertino, CA 95014-6299].

Tech Alliance used to be APDA until Apple re-absorbed the organization. Has better prices on software, including obscure languages. Good newsletter with long articles of interest to developers in all languages. They are trying to help developers market and publish software. [*MacTech Quarterly*, 290 SW 43rd Street, Renton, WA 98055, (206) 251-5222]

MacApp Developer's Association has a nice publication called *Frameworks*, and costs $40 per year. [MacApp Developer's Association, P.O. Box 23, Everett, Wa 98206]

User Groups are a great resource. Most of them have a developer or two around. Some of them have Programmer or Developer SIGs (Special Interest Groups), which meet and compare war stories—I mean programming information. BMUG's meets every other Wednesday at 7 pm at the BMUG office, and everyone is welcome, although it is quite technical.

Online Services / Networks are another way to find helpful people. Be warned that if you ask a simple question, you'll be getting answers for months! Try to look it up before asking, or send mail to a specific person. Usenet is available through college and university computer networks and the BMUG BBS; MacDev on EchoMac goes through BBSs including BMUGs; and various groups on CompuServe, GEnie, and MacNet.

Compiler publishers: don't forget to use the customer support if you have to. They aren't there to teach you Mac programming, but they are responsible for explaining compiler idiosyncrasies. Read the manual first, though.

Programming Languages

Pascal: the Toolbox was written for Pascal, and all of *Inside Macintosh* and many other books have examples in Pascal. If you like the language, you're set.

C: this is the hot language now. If you know it already, by all means, use it on the Mac. If you don't, my personal experience is that learning the both Toolbox and C, at the same time, is very hard.

OOP (Object-Oriented Programming): Apple says that this is the programming wave of the future. However, there's not much written on the topic, and it's considered hard to learn. Keep an eye on this, or learn it now if you want to be on the cutting edge.

Fortran, Lisp, and other languages: most of these have compilers on the Mac, but I know very little about them, so I'm not going to comment. APDA and TechAlliance are good resources for buying these compilers and finding information.

Compilers

MPW: (Macintosh Programmers Workshop) A development environment from Apple which provides a Unix-like shell. It's slow, big, slow, hard to use, slow, but has powerful features not found anywhere else. Compilers are "tools" which operate within the shell and are purchased separately. Apple, as well as several third parties, distribute compilers tools for several languages. Order through APDA, $100 for the shell, $150 an up for compilers.

THINK C & THINK Pascal: (formerly called "Lightspeed") Good Mac user interfaces, symbolic debuggers, and **fast** compilation. The manuals are somewhat cryptic: I learned more about how to use the features from other people than from the manual. These compilers are used by many individual programmers, and are the consensus choice of the BMUG Programmers SIG: they are also cheaper than MPW. Get at Mac-only stores, mail-order, APDA or MacTech Quarterly, about $150 for C, $85 for Pascal.

Others: There are other compilers: Turbo Pascal (though Borland is leaving the Mac market), and Aztec C. You may well like one of the smaller compilers better, but you will have a smaller community to help you out.

Prototyper isn't a compiler, but it creates a structure of a program, with a user-interface shell, which can save you a lot of time. If you have a specific program that you want to write, consider getting this product. It's not the best way to learn Mac programming, and it produces somewhat inelegant code, but you may want to concentrate on the other parts of your program. [from, SmethersBarnes, about $75]

MacApp is a source code library of object-oriented classes written in *MPW Pascal*. It provides a framework for building applications and implements most standard features of the Mac interface. Order thourgh APDA, $100.

What to do first:

Ignore memory management! Although many books, including *Inside Macintosh*, start with this topic, it is one of the more complex parts of the Mac. Your small programs will not require a lot of memory, so you can ignore this for the moment. Go learn about the Window Manager or something.

What I did was to go through the MiniEdit program which Symantec ships with *THINK C*, and comment almost every line. Then I started adding features, and I found some bugs which were not put in on purpose. Symantec has created a situation more like real programming than they may have intended!

Another good strategy would be to go through the Chernicoff series, and either type the program or comment the program from disks. This is a very good way to really understand the various parts of the Toolbox, since Chernicoff covers each part in detail.

What to do second:

Write a small program. If you write a program which allows the user to open a text file, counts the number of words, and reports the result, you will be well on your way to programming. Remember that using Dialog boxes alone is **not** considered a real user interface, so learn about menus and windows.

Write an XCMD. If you have done any HyperTalk programming, you have probably wished that there was an XCMD to do something. If not, one of your friends will have a suggestion. Don't forget to return an error condition if you get the wrong number of parameters. Instructions for writing XCMDs are in several books, including Gary Bonds' *XCMDs for HyperCard* (MIS: Press, $25).

Get a bunch of sample code from Apple (APDA), online services, or user groups.

Avi Rappoport has degrees in Medieval History and Library and Information Studies. She has programmed in several languages, from Pascal to PL/1. She decided to start programming the Macintosh in December 1988, and to her complete surprise, is now doing Software Development along with Technical Support at Niles & Associates, a small Bay Area software company, and can be reached on the BMUG BBS.

You can learn a lot about how other people solved the same problems you're looking at.

After that, you're on your own. Best of luck in this best of all possible worlds—did someone say NeXT?

Part II: Useful information: — Things I wish someone had explained to me...

How to deal with handles:

```
C:
    typedef struct myPrefs          /* create the structure */
    {
    short    OutC;
    } myPrefs;
    typedef myPrefs       * myPrefsPtr;  /* pointer typedef */
    typedef myPrefsPtr *  myPrefsHandle; /* handle typedef */

    myPrefsHandle PrefH;             /* declare a variable */

    /* set another variable to value stored in structure, accessing
       through the handle: two stars mean double dereferencing */
    OutCount = (**PrefH).OutC;

Pascal:
    type
        LinkHandle   = ^LinkPtr;   /* handle type definition */
        LinkPtr  = ^Link;      /* pointer type definition*/
        Link     =record       /* create the structure */
            data: INTEGER;
            next: LinkHandle
        end;

    var                              /* declare a variable */
        theLink: LinkHandle;
    /* set another variable to value stored in structure, accessing
        through the handle: two hats mean double dereferencing */
        x := theLink^^.data;
```

Event Loop in C (see Chernicoff etc. for Pascal version)

```
/*  A generic event loop for a mac application
    © Copyright 1988 Gregory H. Dow. All Rights Reserved.

    This code demonstrates how to use features of the Macintosh Tool
    box. I have tried to make the code as straightforward and
    easy-to-follow as possible, and I have sometimes sacrificed
    efficiency and elegance for the sake of clarity.
    Programmers are free to use any and all portions of this code in
    their own programs. However, distribution of this source code for
    profit in either printed or machine-readable form is prohibited
    without my consent.
        Gregory H. Dow
        BMUG */

void DoEventLoop()
{
Boolean       hasWNE;           /* Is WaitNextEvent implemented?      */
EventRecord   theEvent;      /* Mac Event to be processed         */
```

```
Boolean        isMyEvent;          /* Should program handle event? */
RgnHandle mouseRgn;
hasWNE = WNEIsImplemented(); /* Check for WaitNextEvent trap     */
mouseRgn = NewRgn();

do {                          /** Start Event Loop **/

     if (hasWNE) {            /* MulitFinder is running or */
                              /* System is 6.0 or later.          */
          isMyEvent = WaitNextEvent(everyEvent, &theEvent,
                                    sleepTime, mouseRgn);
          } else {
               SystemTask();       /* Give DA's some CPU time            */
                                   /* Retrieve the next event            */
               isMyEvent = GetNextEvent(everyEvent, &theEvent);
          }

               /* Here's the place to do periodic housekeeping and      */
               /* maintenance, if required. Some things you may   */
               /* want to do here are: setting the cursor shape   */
               /* based on the mouse location, blinking the text */
               /* insertion cursor */

          DoMouseMoved(&theEvent, mouseRgn);

          if (isMyEvent) {              /* It is our job to handle this*/
                                        /*   event. Dispatch it to the    */
                                        /*   proper routine        */
               switch (theEvent.what) {
                                   /** USER ACTIONS **/
                    case mouseDown:     /* Mouse was pressed             */
                         DoMouseDown(&theEvent);
                         break;
                    case mouseUp:       /* Mouse was released            */
                         break;
                    case keyDown:       /* Key was pressed        */
                    case autoKey:       /* Key was held down             */
                         DoKeyDown(&theEvent);
                         break;
                    case diskEvt:       /* Disk inserted                 */
                         DoDiskEvent(&theEvent);
                         break;
                    case updateEvt:     /* Draw window contents          */
                         DoUpdate(theEvent.message);
                         break;


                    case activateEvt:   /* Activate/Deactivate a window*/

                         if (theEvent.modifiers & activeFlag)
                              DoActivate(theEvent.message);
                         else
                              DoDeactivate(theEvent.message);
                         break;
```

```
                case  app1Evt:          /* User-Defined Events     */
                case  app2Evt:
                case  app3Evt:
                     break;
                case  app4Evt:          /* MultiFinder Event       */

                          /* Event type is stored in the      */
                          /*   high byte of the event message */
                          /*   Typecast to unsigned long so   */
                          /*   we won't get sign extension    */
                          /*   when the bits are shifted      */
                     switch ((unsigned long)theEvent.message >> 24) {
                          case MouseMovedEvt:
                               DoMouseMoved(&theEvent, mouseRgn);
                               break;
                          case SuspendResumeEvt:
                               if (theEvent.message & ResumeEvtMask)
                                    DoResume(&theEvent);
                               else
                                    DoSuspend(&theEvent);
                               break;
                     }
                     break;
            }
        }
    } while (!quitting);        /** End Event Loop **/

    DisposeRgn(mouseRgn);           /* Clean up after ourselves    */
}
```

Now that you've seen what Mac programming really looks like, you should go out and do some of your own!

Some Collective Thoughts on Learning to Program the Mac

Edited by Jones Beene

The following question is one of the most frequently heard on the BMUG bulletin board: "I want to learn to program on the Mac ... what are my alternatives?" The answers given here are paraphrased and edited from many actual responses which were received over the past several months on the BMUG BBS (Bulletin Board Service) and UseNet. These answers are representative of the type of help you can get to your questions by using the BBS.

SUBJ : BEGINNING PROGRAMMING

Programming the Mac is not easy. To create Mac applications with windows, menus, etc., you must learn how to use the ToolBox, a collection of routines which are built into the Mac ROMs (Read-Only Memory). However, tools such as *Prototyper* and *VIP* may make the job easier. But more about that later.

Unfortunately, BASIC is not a particularly good language to use on the Mac. Almost all Mac programming is done in Pascal or C. Pascal is usually the recommended starting point, since it is the "native language" of the Mac and a majority of the documentation from Apple is written for Pascal.

You should view the learning process as a two-stage project: first, learn Pascal without worrying about doing Mac-like things; second, learn the ToolBox if you don't opt out for one of the shortcuts. *Oh, Pascal,* by Cooper and Clancy, is a book that will teach you Pascal in a line-oriented (non-graphics) fashion. After you are comfortable with Pascal (make sure you fully understand how to use pointers), then you are ready to tackle the ToolBox. The definitive reference to the Toolbox is *Inside Macintosh*, a five-volume set written by Apple and published by Addison-Wesley. It's not very readable. You can get by with just volumes 1 and 2 while you are starting out. Stephen Chernicoff's *Macintosh Revealed* books, vols. 1-3, provide a much more readable introduction to Mac programming. Another resource is *MacTutor*, a monthly journal for programmers which includes a lot of source code examples and tips on programming.

In addition to books, there is also educational software. *Turbo Pascal Tutor* by Borland is an excellent starting tool, but cannot be recommended at this time because of Borland's apparent decision to give up supporting the Mac market. *Just Enough Pascal* by Symantec is also a good learning tool. It is a DA used in conjunction with *THINK's Lightspeed Pascal* (version 2.0). With it, you step through a tutorial where you build a game program step by step. As you go through the steps, you are challenged to modify the program. All required source files are included, so you can pick up at any step without having to type in the source code. Another great resource is Kinko's Courseware Exchange. They supply a number of programming aids such as *Pascal Genie, Event Tutor,* and *Pascal Pointers.*

VIP is a program that will let you compose many functional programs without learning ToolBox routines. By pointing and dragging the icons for any of over 170 Procedures, one can construct a program with a Mac interface and, more importantly, avoid memorizing reams of arcane syntax and non-intuitive procedures. With *VIP*, you build a flowchart of your application. Unfortunately, it operates only as an interpreter and may not be suited to real development work at this time.

Possibly better than *VIP* is *Prototyper* (version 2.0) by Smethers Barnes. It allows you to create a interface/prototype graphically, and then generate fully commetned C or Pascal source code for several popular compilers.

Subj: Pascal Dialects

I personally use *TML Pascal*, which is an *MPW* (Macintosh Programmer's Workshop) tool. *MPW* is kind of hard to explain. It's an integrated editor, command line interface, and development shell. You use it to run tools, such as a linker, assembler, Pascal or C compilers, resource builders, etc. Many tools are included with the standard *MPW* package, but compiler tools must be purchased separately. The *TML Pascal* compiler is a cheaper alternative to the Pascal compiler from Apple. It also requires less memory to run.

Another option is *THINK Pascal*, which is simple to use and very popular. It is a standalone application which includes an integrated editor, compiler, and source-level debugger. The editor automatically "pretty prints" your source code by indenting control structures and bold-facing keywords. The pretty printing can't be disabled, but there are configuration options which will satisfy most people's tastes. If you only have a 1MB machine, then *THINK Pascal* is probably the best choice, but I don't regret using *TML* at all; it is a very nice package and they have excellent technical support.

As for Microsoft, Borland, and the rest, don't even ask.

Subj : C Programming

If you were certain that you would never migrate to another computer, you could possibly ignore C. On the other hand, C is closer to becoming the universal language of programming than any other language. And because of C's UNIX connection, there are more good C programmers out there than Pascal programmers. There is safety in numbers, at least as far as the job market is concerned.

When its time to hit the book store for a good book on C, *A Book on C* by Kelley and Pohl is highly recommended for beginning C. *Using the Macintosh ToolBox with C* by Takatsuka, Huxham, & Burnard is a little dated, but covers the Toolbox a lot better. *C Programming Techniques for the Macintosh* by Mednieks & Schilke has little substance other than a program listing for a Mandelbrot generator that has enough bugs to give you a thorough introduction to the fun and frustration of debugging the Mac. As for a general book on C, Kernighan & Ritchie's *The C Programming Language* is the definitive work.

THINK C version 3.0 is the most recommended development system for C programing on the Mac. This is the first version that has a source-level debugger. Running the debugger normally requires at least 2 megabytes of RAM since it operates only under MultiFinder. However, the actual compiler will run on a 1 meg machine. The editor is a strict text editor. It does no formatting—whatever you type in is what you get. There is a **Check Syntax** command, but the compilation is so fast that you usually just compile your code. Compilation stops when the first error is encounterd. The cursor is placed at the offending line and an error message is displayed.

Subj : Favorite Programming Utilities

- *Inside Mac DA* v2.0 by Bernard Gallet (Shareware $20). It's a great utility that contains all of the ToolBox functions described in Inside Mac I-V. It also has the textual information about each call and the Interfaces as well.

- *CTools* by G. Haddock (Freeware?). Among the useful features is a Pascal to C Translator. It doesn't do a complete translation, but helps a lot. It also has the following tools: File Stripper, and a function prototype generator .

- *Technical Notes Stack 3.1* from Apple Mac Developer Technical Services (DTS). Contains a cross reference of all of the Mac Tech Notes and a copy of the actual Tech Notes. Recently released (spring 89) by Mac DTS and is free to distribute as long as you don't monkey with the stack.

- *MacApp Goodies , and Useful Tools &Scripts* from MacApp (about $60 each) Libraries of tools and goodies for the pack rat programmer.

- *Systems Errors* by Bill Steinberg (Freeware) is a DA that lists all of the systems errors.

- *Programmer's Key* Init that allows you to use your keyboard to invoke the debugger.

A useful reference book is *Encyclopedia MAC ROM*. It lists the ROM routines in alphabetical order (*Inside Macintosh* is by subject) and it has examples of how to define variables (in C, PASCAL, and assembly) for each routine and how to call the routine. It is not always very clear (from C) which variables are passed by address and which are passed by value. With this book it isn't a guessing game. There is also a DA called *Programmer's Online Companion* from Addison-Wesley that lets you search for any ToolBox routine or symbol and displays the parameter types and the page number in *Inside Macintosh*.

Subj: Mac Debugging Tools

Mac debugging tools vary in degree of complexity (none are easy to use, but that's just the nature of debugging). There are source-level debuggers such as those provided with the THINK compilers and *SADE* (Symbolic Application Debugging Environment) for *MPW*. These tools let you interact with your program as it is running, allowing you to inspect variables and set breakpoints based on your actual source code (the stuff you typed in). Object-level debuggers such as *MacBugs*, *TMON*, and *The Debugger* also let you interact with a running program, but at the machine/assembly language level.

-*MacsBugs*: Low-level only. Modal. Version 6.X has added greater functionality and a new interface. I don't boot without it.

-*TMON*: Low-level, customizable, hooks for extended functionality. Modal. Much nicer, more powerful than earlier versions of *MacsBugs*. Has many vocal supporters.

-*MacNosy/The Debugger*: Low-level and symbolic support. Non-modal. Extremely powerful and flexible. Documentation was a misnomer at best, but I believe the situation has changed somewhat. If you like tracing ROM or just want it all in one package, this is for you. Expensive.

-*SADE*: Symbolic only. Works only in MultiFinder and only with *MPW*. Requires *System 6.0.X* and *MF 6.1xX*. If you like *MPW*, you will like *SADE*—customizable to your heart's desire. If you have an aversion to 680X0 assembly and aren't tied to the THINK environments, going *MPW* with *SADE*s source-level access might be something to consider.

Question and Answers

From The Mar/Apr '89 Aldus MasterPages Newsletter

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What file protection does *PageMaker* provide against an emergency, such as a power outage or a system crash?

PageMaker actually does a mini-save each time you print, insert or delete a page, turn a page, or click on the icon of the page you're working on. In the event of a system emergency, therefore, you should only lose the changes you made since the last mini-save occurred.

If you had already named and saved your publication when your system shut down, restart your Macintosh and open the publication from within *PageMaker*. The program will automatically open your document's last mini-save.

If the publication still was untitled at the time of the shutdown, you'll find that *PageMaker* saved the last mini-save version in the *System* folder as a temporary file named PMF00x, where x is a number. (Ignore the file named PMF000, which is *PageMaker 3.0's* internal Clipboard.) If you have more than one PMF00x file, the one with the largest number is the most recent mini-save. To open it, start PageMaker and use the **Open...** command, or double-click on the file from your desktop. Don't rename the file before opening it. Verify that you've indeed opened the temporary file for your untitled publication, then name and save it. Later, return to the *System* folder and delete any other temporary files.

Sometimes text created in *Microsoft Word* doesn't fill the entire width of the column when I place it in *PageMaker*. What's wrong?

Usually this happens because you set a right indent in *Word*, perhaps to temporarily adjust the width of your text to preview it in a narrower, column-like format.

Now that the text is in *PageMaker*, select all of it with the text tool.. Next, choose **Paragraph...** from the **Type** menu, set the **Right indent** to "0," and click **OK**.

Remember that dragging the right triangle on the *Word* ruler changes the right indent, not the right margin. The next time you want to preview the column width of your text in *Word*, use *Word's* **Page Setup...** command to set the margins so that your text width equals that of your *PageMaker* column.

What's the difference between a publication and a template?

A publication is a page or collection of pages you create by integrating text and graphics in *PageMaker*. You can start a publication from scratch (by using the **New...** command) or by opening a template. When you open an existing publication, the title bar of the *PageMaker* window repeats the publication name, and you resume where you last saved your work.

Technically, a template is a publication too. Each time you open a template, however, it opens as a new, untitled publication that is already partially completed. That way, the template acts as a dummy, or model, for publications that should follow the same general layout. You make any changes you want, add more text and graphics, then name and save the results as a regular publication.

Starting with a template, rather than from scratch, gives you a head start in creating a new publication. The template can be simple, with only page setup settings, or elaborate, with finished master pages, standard text and graphics, a style sheet, a color palette, and so on. Because the original template remains unchanged, you can use it again and again to create any number of publications.

I often have trouble selecting a specific item on a page, and sometimes I select the wrong item. What am I doing wrong?

You may be on a regular page but trying

to select an item on a master page. To select elements on a master page, you must be working on a master page, so turn to the appropriate master page and try selecting the item again.

Alternatively, another item may be on top of the item you're trying to select. Hold down the **Command** key, click to select the overlapping item, and click again to select the next lower layer. Continue clicking until you reach the item you want to select.

How do I get *PageMaker* to record the names of spot colors on my overlays?

Before printing, be sure to check the **Spot color overlays** and **Crop marks** options in the **Print...** dialog box. These two options make sure that *PageMaker* automatically prints the name of the spot color overlays, along with crop marks and registration marks, 1/2 inch beyond the edge of your page. If the overlay names still don't print, try switching to a larger paper size—the print area of your paper may be too small to allow room for the overlay names and crop and registration marks.

How do I find the version numbers for my *System* and *Finder* files?

The best way to check *System* and *Finder* versions is to choose **About the Finder...** from the menu.

Or, you can highlight the *Finder* and *System* files and choose **Get Info** from the Finder's **File** menu, which gives you an information box that should list the version number. l

Designing A Calendar

PageMaker Technical Note - Design Tips

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To create a one-year calendar in *PageMaker*, begin by designing the calendar on a master page, including a grid for the days of the week. Then individualize each page of the publication for a different month. Keep in mind that a publication must not contain more than 400 stories - each story can be made up of one or more threaded text blocks - depending on the amount of memory your computer has. Also, the more design elements you add to a page, the longer the page takes to print.

We recommend that you either create a separate publication for each month or create at least two publications containing six months each. This way, you can minimize the number of stories per publication. The more elaborate the calendar, the more separate publications you should use. However, if you must create a one-year calendar in one publication, use no more than 33 stories per page.

Note: Each page in the calendar may contain many layers of text and graphics. If you have trouble selecting an item on the page, use the **Send to back** and **Bring to front** commands on the **Edit** menu.

To create a one-year calendar in one publication:

1. Start *PageMaker*, and open a **New...** publication.
2. Choose the **Page setup...** command from the **File** menu, and specify the following:

   Page size: Letter

   Orientation: Tall

   Options: click Double-sided so that it is unchecked

   Margin in inches: Inside, .75; Outside, .75; Top, .75; Bottom, .75

   # of pages: 12

   When you're done, click **OK**.

3. Click the **R** icon to turn to the the right master page.
4. Choose the **Column guides...** command from the **Options** menu, and type 7 for **Number of columns**: and 0 (zero) for **Space between columns**:.
5. Choose **Rulers** from the **Options** menu so that it is checked.
6. Choose the **Preferences...** command from the **Edit** menu, and select inches.
7. Using the perpendicular-line tool, draw a grid containing 1-inch squares that is five rows deep and seven columns wide.

   To help draw the grid, set the zero point on the upper left corner of the page where the top and left margins meet.
8. Choose the **Column guides...** command again, and type 1 for **Number of columns**:.
9. Click on the text tool, and click an insertion point on the page outside of the grid.
10. Press the Tab key, then type Sunday, and press the Tab key again. Type Monday, and press the Tab key again. Continue in this fashion until you've typed each day of the week.The text may wrap around to the next line. If you want to repeat the days of the week in each row of the grid, either continue typing Sunday through Saturday and inserting a carriage return at the end of each line, or copy and paste a text block containing Sunday through Saturday in each row of the grid.
11. Choose **Select all** from the **Edit** menu, then choose the **Type specs...** command from the **Type** menu, and specify the characteristics for the text, including type face, point size, and style.
12. With the text still selected, choose the "Indents/tabs..." command from the Type menu, and specify seven center tabs to position the days of the week - Sunday through Monday - in the grid.

    For example, set the center tabs at every inch beginning with .5 inch - you'll have tabs at .5, 1.5, 2.5, and so on.
13. Click the 1 icon to turn to page 1.
14. With no text selected, select the pointer tool and set seven more tabs to position the dates (1 through 28, 30, or 31) within the grid.

    For example, set left tabs at every inch beginning with .125 inch to position the numbers at the left side of each grid square.
15. In a new text block on the page either inside or outside of the grid, press the Tab key to position the cursor in the appropriate grid square of the first day of the month, and type 1.

    For example, if the first day of the month falls on Tuesday, and your calendar is from Sunday to Saturday, press the Tab key three times to position the cursor in the grid square under Tuesday.
16. Continue pressing the Tab key and typing the date until you reach the end of the line, then press the Return key. Continue in this fashion until you've typed the last day of the month.
17. Choose **Select all** from the **Edit** menu, then choose the **Type specs...** command from the **Type** menu, and specify the characteristics for the text, including type face, point size, and style. Also, type 72 for **Leading**:. Seventy-two points of leading is equal to one inch, which is the height of one grid square.
18. Move the text block that contains the dates onto the grid.
19. Turn to the next page in the publication, and repeat steps 15 through 18. When you finish the last page, close the publication.

Vary this procedure as necessary to create the effects you want, but keep in mind that you should use no more than 33 stories per page. For more information about using a template, or "dummy" publication, read "Using dummy publications" in Part 4: Designing your publication of the *PageMaker* User Manual.

Commentary

A Quixotic Reverie on the State of Our Machine

Robert Roberts, Jr., A.B.

Disclaimer

But first, the always fascinating and ever fun to ignore disclaimer:

This is a work of friction, and probably to most of you, a bad dream. Any presumed likenesses herein to persons, organizations, corporations, publications, signs of intelligence or pet programs is without basis. Further, any suspected similarities to journalists, computers, instances of rational thought or organization, and/or alleged computers living or dead is purely coincidental. I, of course, assume no responsibility whatsoever for any consequences arising out of the following, particularly if they are indeed consequential, not to mention incidental. People in some states may not understand any of it, at all.

Who's Minding the Apple Orchard?

Drawing new organization charts, playing employee musical chairs and finding one's office continue to be Apple's more visible corporate goals. I hope they find other ones, too. (Other than learning the hard way about Macintosh price inelasticity.) Good, wholesome goals like keeping the Macintosh moving forward, making it truly the innovative information appliance it should be, empowering people, sticking it to IBM and Klones while keeping it ahead of the pack, simple, friendly and intuitive.

As opposed to:

68000.. 020... 030... 040... 88000. 68882. 56001. 400K... 800K... 1.440K. PMMU. VLSI. ULSI. Ulcer. 72, 300, 600, 1260, 2450dpi. PICT. PICT2.TIFF. RIFF. EPSF. ADB. Cdevs. INITS. LAN. Direct slot. NuBus. Adobe-Bitstream-Letraset-Compugraphic font fights. Bezier Curves. QUADRATIC SPLINES. YuppyMac, 512K, 512KE, Plus, SE, SE/30, II, IIx, IIcx. IImx? IIhex? LapMac? CheapMac!! KiddieMac? MIS. Font... FOND... NFNT (nif-nit?). CD-ROM. Some color... more color... lots of color... more color than you will ever need color. Spot color. CYMK, RGB, DipityDoWop. Version 2.V.b.ii.╢/ll.┤.gg.┴.┴┌▒.

RIP3

This stuff can be interesting and a lot of fun in the short term for the Toolie in all of us. But this unseemly Fortune 1000 brown-nosing is getting just too gross and unhealthy. Networking and connectivity with PCs and all this stuff about work groups sound like least-common-denominator type of thinking to me. You know, like network television and *The Enquirer*. The Macintosh press sages and seers are, of course, all frothing over this "progress," declaring the old Apple (read cutting edge and innovative) dead, cadaverous. Out of the other side of their mouths, this same gaggle is singing their new mantra, "Long Live the New Apple," (read boring, bureaucratic). They know who has the advertising dollars.

Apple has been hiring literally thousands of new people to handle the booming of the Macintosh, to develop new Macintoshes, to write new system software, to perfect spin control. Who are all these people and what do they really know about my computer? Is it just a job to them, a beeline to a Bummer? Are they actually given a job description. An office? Something to do? Do they know what a Boesendorfer is? An IWM? Do they want to change the world or are they just changelings? Are they into the Apple culture, or merely into the petri dish? Could some be IBM spies, OS2/PM insurrectionists? Are any like Danny Goodman?

Speaking of which, is anyone getting tired of Jerry Pournelle? Or of *Byte*. Or of

Macworld? Of remorselessly cute article titles in *MacUser*? Of arriviste PC suppliers jumping on the Macintosh gravy train, while telling us unwashed Macintosh idiots that "This is really popular in the PC world, so buy it and suffer along with us!"? It all makes me drift off. Where do these people come from, anyway? Do they just spring fully formed from the head of Rod McKuen?

I wonder who misplaced the secret contract with the well-known but defunct English singing group? Probably none of the currant Apples has been there long enough to remember this minor detail. It is, after all, only a name. There are a lot of those wandering around in case a hasty name change is required. *Pomme d'rue*, perhaps?

Power Failure...

Power continues to be all the rage. Billions of Megahertz. Terabytes of memory. Googols of storage on magNeato-optical disks. Go figure! I personally am looking forward to the use of the supposedly ultra-fast biological circuits; cells from the editors of *Spy* magazine running in a Macintosh would certainly give new meaning to the idea of garbage in, garbage out. However, all this power is mere window-dressing if it does not serve the user in elegant, transparent implementations that allow users to actually get on with it in life-enhancing, productive and creative ways. I try not to listen to the insistent whispers that all this power is making programmers sloppy now that they don't have to cram everything onto 400K disks or into 128K memory, with speed hiding any inelegant programming. Sigh.

Job's Box

Why is everybody all aflutter over Job's designer box? Sleek, magnesium haute couture computing, at last!? What took them so long and why weren't we notified earlier so we could prepare for it properly? It's really a meagre accomplishment after three years and dollars in grotesque, Perotean quantities, isn't it? Yet another triumph of mirrors over substance. I guess you're supposed to load programs into it with a coke spoon or maybe through the beneficent action of quartz crystals, or something. At the very least, I request the immediate cessation of all NeXT puns.

The NextStep language sounds like a winner, though. Someone has to lead while Apple is in its current "missing in the maze" mode.

Now we have IBM aping the Mac in earnest with the determined help of not only Jobs but also the water logged propeller heads up the coast. You know, the ones who write all those wonderfully skewed programs for our little box. And sell a lot of them, to boot.

And the erstwhile eastern-soda-pop-star still says, mid-posturing, we have a lot of time before we have to get a better System/Finder out. The Other Side's experiment in chaos has more participants and is even more well-developed than Apple's! Plenty of time. Plenty of time... To change and rearrange... to come up with really useful Cdevs like the Map. To leave out the ones we really could use. To leave the pre-SE believers in the dust of disdain. To hire even more people from IBM to whip Apple into shape. What shape, what form, what fog... Oh my, things get curiouser and curiouser.

Year of the CPU

Leaping lizards! Now, it's the Year of the CPU at Apple Computer out there on the larboard coast. Hmm, last year was the Year of the... I forget. Can anyone tell me if it was fun? Did it succeed? Were mirrors involved?

Let's see. So far this fiscal year we have: IIx... SE/30... IIcx, each with plutonium price tags. And I still have a Lonely Heifer roaming around in my humble Plus. Bodes well for my future in Apple-style computing. Does SE **really** mean system expansion; does "c" really mean compact? I don't know what "x" means. Would you like to meet the person who comes up with these slick names, too? I'm not holding my breath for a III. How about Granny Smith?

Has anyone noticed how visually appealing the IIcx is? It's really an attractive box. Impressive aesthetics. Shoebox Modern. A real triumph of corners and stripes over good design. Set Apple's charming new one page display on it and, presto, you have a Silicon Valley cyclops. Wonder who gigged Frog design? I was surprised that they didn't move the machine's name back over to the right

side of the box, again. Must have been an oversight. It's a minor issue, to be sure, but one that makes me muse about the design of the box's innards. Like replaceable ROM SIMMS (finally) but now in their IIcx incarnation: here, Apple solders the regular 256K ROMS to the board to reduce manufacturing cost, then provides a SIMM socket for future enhancements, after you cut a jumper in a process as intuitive as a buttonless mouse.

Oops, loose tongues sink chips. Ominous complaints of yet another problematical power supply are being heard about the IIcx. Seems it is, ah, anemic. Do I sense the onset of another round of Power Board Bingo?

Not to worry; the IIcx will sell and sell to all those grateful to get their desks back, as well as to those confused MIS types who actually care that it will read PC disks along with those silly Macintosh ones. And once they figure out not only how much memory OS/2 with Presentation Manager will require (oodles) but also how much the new programs for it will cost (oodles more) and still fall far short of the current Macintosh System/Finder arrangement, the IIcx will seem a pure, though homely, miracle.

Boston MacExpo Defended

With the approaching of the 1989 incarnation of the Boston MacExpo a note to all you whimpering journalists: Boston MacExpo is fun! It is. I hope it's even hotter and muggier this time. Spread-out even more. I thought the buses were even better. See the city. **Lose Weight.** Experience the latest in Belgian bus design. Talk with another MacPerson. Time to think. Reflect. Count your blessings. **Get With The Program.** We are **trailblazers.** We are. Yes we are. Or were. Apple is not helping the process any by its nightmare efforts to be a west coast IBM. Besides, Boston is part of the Massachusetts Miracle, isn't it. Buy now, pay forever. Rather like buying something with a colorful apple on it.

A Digression

To those of you whose keen sense of English language probity is easily affronted... intra-word capitalization is **OK**, it's all right, it is not an issue to loose sleep over, to fret about or to draw our attention to e n d l e s s l y. It's just a bit of silly-business from some marketing wizards with stripped gears. Perhaps you see yourselves as Ministers of Silly Intra-Word Capitalizations. No problem. When all possible permutations of this mutation have been used, it will die a sickening, syntactically grotesque death. Anyway, what's the gripe with Macintosh, anyway?

Creeping modularity

Do you have a compact or modular Macintosh? Do you care? Aren't you into modularity, yet? Doesn't the 120-pin Direct Slot SE/30 cause a formerly compact Macintosh to take on ominous overtones of closet modularity? Is this permitted? Important? It makes me nervous.

Various Gripes, Observations and More Ramblings-on

Do you ever hear the tiny feet of thousands of boxy old beige mice wearing down, wearing down? When they are gone, the Apple solution is to buy a new, old mouse. They already invented a better new, new one, but it's been ADB'd and won't work on a Plus. Sigh.

My DataFrame XP (XP?) Twenty is now making a whining, grating, annoying noise I don't like a bit. Out of warranty, you know; I've had it for over three years. It's also full. I've just got to stop buying software and writing stupid articles.

With all the new INITs and CDevs creeping into our systems, it appears that we may be getting closer to truly personalized productivity appliances, if the Apples are paying attention. Their "not invented here" mindset is becoming increasingly vexatious to all of us. It seems only fair that at least some of the pure-hearted public domain and shareware programmers should be rewarded for their good work by having Apple actually buy and use some of their creations. I see at least two small developers are attempting to introduce tear-off menus so I'm not forced to sell my house to buy a Radius Two Page Display to get this feature. There's a hint in there somewhere.

I see we have another cute technobabble phrase from Apple to play with: **Quadratic Splines**, no less. I'm still trying to pronounce

Bezier properly and with some grace. I've heard of M. Bezier, but don't recall a Q. Splines. Whoever he is, the upshot is that this new technology is actually a Midgetman aimed at the Adobeans and their font technology. I personally am glad to have another contender in the type wars. Maybe we will get the best available, least expensive way to keep from going cross-eyed trying to figure out what that is on our screens. I find it difficult to kern a confetti at 72 dpi.

Virtual memory is coming! So is Extensible Finder! And Layout Manager. And Tacklebox. And more! All coming in System 7.0. Some time in 1990. Is Apple having a lucid interval? This is great stuff. Seek-out Apple system engineers and say nice things to them.

Petty PC-Macintosh Squabbles

These PC-Macintosh schisms, these petty CPU wars and name-calling games, these childish "mine is golden, yours is pustulant ooze" confrontations, all have to be stopped now. Its too much fun and MIS is a serious business. Just stop it. Now. I mean it. It's just too childish to bear.

Only, can you **imagine** just how much money corporate America has **vaporized:** in training time, in figuring out where this card and that cable go, in shelving for manuals, in books that try to explain the manuals, in software packaged in boxes so large as to require palletization, in **minds hopelessly deranged** by a satanic and hugely **labyrinthine** operating system, in upgrades, in Steve Winwood CDs to sooth yuppy nerves, in just about everything allied with that **diabolical** machine that **nobody ever got fired for buying?** Irony is lovely, but can be expensive.

I still scratch my head in disbelief whenever I read that MS-DOS contraptions out number Macintoshes 20 to 1. I do take heart in knowing that all those millions of PC's will have to be replaced sooner or later. I wonder if their owners have learned anything in the process...

And now the lemming–like conversion to OS2/PM begins... or will it? If it does begin, is it the end of the Macintosh and life as we know it? Have the Philistines won again?

It's hard to remember that it all began with C>. Some solace can be taken, however, in the Uprising of the Klones.

They seek to derail the Armonk monolith. Again.

With Compaq in the lead, yet. Compaq has got to be one of the leading buffoons in the "Komputer Klone Kapers". It's not just the ugly spelling and stupid name, but for how long did they expect to eat IBM's lunch without contributing a nit to the actual advancement of computing? I thought the people from the boorishly large, funny-looking southern state fancied themselves as risk–takers!

Klones are getting so cheap I am expecting to receive at least one when I am able to open a savings account sometime in the remote future. Probably not at a Texas bank, though.

It now seems that IBM is hatching another counter attack against **all** personal computers, which they have always considered a dangerous aberration from those lordly, money-gushing mainframes: they cleverly call it OfficeVision. Herein, the Blues set out to set things back into their proper perspective, with the mainframes once again in control of all those unruly, untidy personal computers that are liberating desktops worldwide. According to *MacWeek* , IBM's goal here is to turn all personal computers back into intelligent terminals. I prefer to consider this newest ploy a vaguely concealed attempt at lobotomization of the whole personal computer revolution spawned by Apple. Big Brother strains for rebirth.

I have the Upgrade Blues

Now that Apple has standardized (I think) on the 68030 chip for the next few weeks; and trying to ignore that the superspeedy 68040 is out there lurking somewhere and considering the fleeting life of the 68020-based Macintosh II and wondering if there is a killer Macintosh waiting in the wings and not wanting to take a RISC; is now the time to give my expensively upgraded Macintosh Plus to my daughter and make a leap of faith to one of the '030 machines?

Being an Apple product, I know it will cost dearly if I am to buy a system that will last out the 1980's. If I do upgrade, is the new "savior" System/Finder 7.0 going to be nice to my new machine, or just rude and insolent? Do I buy extra RAM now or wait until the price goes up again as the corpulent 4 megabit marvels ramp-up? Do I go with the SE/30 and its screwy Direct Slot (why did they do that?) or the unsightly but more mainstream, I think, IIcx? I've dismissed from consideration the forever forthcoming portable Macintosh; it now seems it will be born both wimpy and weighty.

Now they are talking about a 25MHz 68030. Very fast. And a 33MHz '030. *Very fast.* Just take out the poky old 68030 and plug in the faster ones. Right. Things are always this simple in AppleLand. New motherboards required, of course. There goes the IIcx, obsolete already. No wonder I am given to desperate, late night floccinaucinihilipilificating as I pace about!

I do have to do something because my disk is full, *FullWrite* won't run, *Switcher* is defunct, MultiFinder is useless, my CDevs and INITS are endlessly ramifying, I need a larger screen. And Apple goes on its own imperious way, doing what it will do, which is anyone's guess; new wave sales promotion, I presume. Planning by emanations. Maybe it will all work, what with the Gallic Research Guy overseeing Apple's new machinery and code.

A Peon to *FullWrite 1.0* and Others

Is anyone, particularly Ashton-Tate, paying any attention to *FullWrite Professional 1.0*? It is a nice program. The programmers deserve accolades. Do you realize just what they have put into this program... all that good, productive, useful stuff? Do you realize what you can do with this program and how easily it can be accomplished? And all the journalists can do is deny it mice, golden gavels, and World Class Awards while complaining that it won't fit into a megabyte of memory and is nerve-rackingly slow at (most) times!

FullWrite is merely ahead of its time, just as the Macintosh was, way back when. So punish them for it. Makes sense, given our collective history. Ashton-Tate: just keep making *FullWrite* better, it may even overtake the exotic *Word* in due time. All the rest of you...look at it, get a free demo disk, so it will be given a chance to evolve, to survive. Even though Ashton-Tate is from The Other Side, *FullWrite's* true nascence was in the Midwest; remember Ann Arbor Softworks? Pushing the envelope in the flatlands counts for something, doesn't it? Well, *FoxBase* is from pancake-land, too, so there.

MasterJuggler is another of those miraculous programs that helps one keep everything sorted out, under control and moving along in a most rational and handy way. And yet *Suitcase II* gets all the publicity and mice in the Macintosh press, and has just issued its second or third bug fix.

I think we should all press for a better press before we all get too depressed. I do reserve the right to exempt Salvatore Parascandolo of *MacUser* from my screeds about the Macintosh press; it is obvious this man loves and knows the Macintosh and its endlessly fascinating graphics capabilities and is actually informative in sharing his insights with us. Let's also include in this exemption Kristi Coale and her crew of loonies in the Scrapbook section of *MacUser*. They are defining just what loopy journalism should be. *MacWeek* leads the pack in overall usefulness and timeliness and in just getting the news out in readable, no nonsense form. May they prosper and not give out silly, irrational awards.

I have this weird notion, this screwy idea that Apple is going to meander into making sense to us sometime soon, and I dread the day. If Apple is to persist in becoming suitable to the Fortune 1000, the least they could do is proceed in a manner that makes absolutely no sense, and succeed because of it. This is a potent weapon in keeping the advancing Blues, Klones and Fiery Orbs at bay.

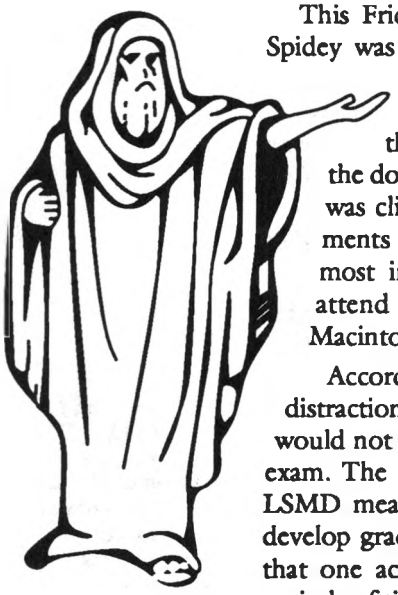
Prolix Midwesterner Shuts-up, Thank You.

Whether you decide what you have just read is journalism, a crazed and senseless muddling about, or shredder-bait, there you are. For any comments or feedback you may wish to share, just direct your letters and electronic zingers to your local Channeler.

Robert Roberts, Jr. (CIS 75530,2570) tries to use his Macintosh Plus as a free-lance writer in the stream of consciousness school and as a graphic designer. He spends too much time trying to make sense of the inherently senseless, but enjoys it nevertheless. He does not enjoy gratuitous comments about his name, nor will he explain what it means.

At Midnight, Peter Swallowed the LSMD

by Scott Kronick



Patriarch EPS
BMUG Pictures #38

This Friday evening Peter's roommate Spidey was partying at the source of the popping zip-top cans and the balmy scents that wound through the hallway and under the door of 314. Inside, Peter Mossett was climbing the walls. In a few moments he would be undertaking the most important task of his quest to attend law school, the Law School Macintosh Dream (LSMD).

According to the official bulletin, the distractions coming from down the hall would not interfere with the results of the exam. The bulletin also stated, "Since the LSMD measures intellectual qualities that develop gradually, and types of knowledge that one accumulates over relatively long periods of time, no specific preparation can be made immediately before the test." Mossett ignored the advice and had spent the last few days poring over literary classics. Time was running out. He would only be able to finish his current selection, *The Three Stigmata of Palmer Eldritch,* before he would have to retire and take the exam.

Just before midnight, Mossett completed his last preparatory book. The intense pressures failed to lessen. There was nothing more he could do. The test would determine if his future would be in the legal profession and, if so, at which law school he'd attend for the next three years. The 3.8 grade point average that he had masterfully engineered, the professor's letter of recommendation he conjured (to the nausea of classmates by making a point of raising his hand and asking a question at least once every class), and the magnificent appraisal his father obtained from the Assistant District Attorney, who he had met at a ball game last year, were all now of secondary importance to the standardized and sterile testing.

Mossett's mind was in chaos. His thoughts whirled from the inequities of the testing procedure to the foreseeable disappointment of the results to the simple life of Palmer Eldritch as described by Philip K. Dick. In a single breath, he accepted the futility.

At midnight, Mossett swallowed the LSMD.

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There is no reason to be nervous about the exam, Peter. Lie down and relax. This year they have even included a mild soporific to facilitate tranquil slumber. Once you have let your conscious thought aimlessly drift into unison with the subconscious realm, the electrically-charged sensory impulses that are naturally dictated to the brain will be monitored and transmitted to the test administrators in the pharmaceutical Mac lab at Princeton. The capsule will fully decompose in your stomach after the information has been received.

At Princeton, the neuropharmacologists will make an initial examination of the distinguishing oscillations of your electroencephalogram for irrefutable identification. As you lapse into deep sleep, the EEG will detect any physical abnormalities or impairments which could have a detrimental effect on your performance during the omnipotent rapid eye movement cycle of your sleep.

If an acceptable result is obtained, your sensory and psychic outputs will be fed in their entirety to the LSMD android in Cupertino. With flawless objectivity, the android translates the symbolic visual, verbal, and conceptual images delineating your personality development. At that point your dream analysis is deciphered into quantitative values of intellectual aptitude and achievement, motivational attitude, behavioral consistency, and creative potential. Analysis of the dream sequences reveals the causes and repercussions of even the most deep-seated childhood repressions

apparent to your conscious self only in the form of neuroses.

Approximately two hour after awakening, you will receive transcendentally the results of your psychoanalysis measured on a 200 to 800 point scale.

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But what if I have a nightmare? They'll think I'm emotionally unstable—unable to hack the pressures of law school. Father will get very upset—Mom will be sad—the long and sombre talk at the dinner table—like the night I got drunk— they saw me so sick I could barely stand—Peter! What's the matter with you?—drunk— you're drunk— say it Peter, you are drunk— don't you feel any shame? Remorse? I don't care about Richard—you're my son. All my friends at Richard's party—Donna—her super smile when our eyes meet—walking with her to the abandoned estate—climbing the observation tower—lying on the grass—her voice blends with the summer air—you're really amazing Donna—I want to be with you Donna—embracing—embracing forever. Where's Donna? She's gone—went to class—Donna's gone—I'm late to class—didn't do my homework—you didn't do your homework, Peter? Better get on the ball, Peter—he puts a little mark in the black grade book—Dennis is giggling—he hasn't done his homework more often than I—I always giggle when he gets caught—we've been best friends since we met a camp—living far away from home—lots of good friends—sleeping in a cabin—Mom and Father are far away—we're climbing the real high mountains—walking and walking for miles—the sky gets darker—the campfire and the stars are the only things lit—I'm far away from camp—I'm not sleeping—it's black all around me—it's only the leaves—or maybe raccoons—I know the other guys are all around here—the crickets are loud—they're deafening—I can't even talk louder than the chirping—I can't speak at all—nothing comes out when I scream—they could all leave without me and I could never find them—Dennis? Mike? Where is everyone? They're gone—everything is completely black—I can't see—I'm alone in the mountains—I want to be home—close my eyes—curl up in my sleeping bag—be still—make pretend I'm home—door—

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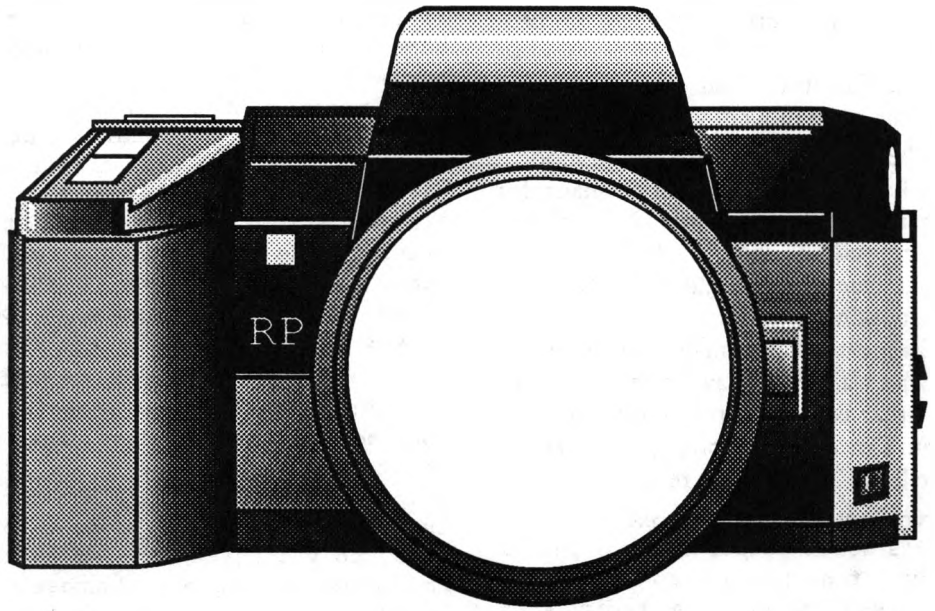
"Sorry, didn't think you'd be crashing this early?"

"That's okay, Spidey. Just keep it down. I'm taking the Law Boards."



35mm Camera

BMUG Pictures 38

The Birth and Death of the Great Modem Virus

by Robert Holland
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"When you believe something that you don't understand, you will suffer..."

—*Superstition* by Stevie Wonder

1988 was the year of the computer virus and it seemed that the computer publications played it up beyond call or reason, amplifying virus damage and running front-page articles on the latest virus news. While the viruses received tremendous publicity, these articles did not provide clear-headed information on how to battle each virus.

I believe that people write computer viruses either against a specific target, or to cause general havoc and garner publicity. The viruses aimed at a specific target (a company) typically are not spread throughout the computer community—they are detected quickly, isolated and destroyed. Many of these viruses receive no publicity whatever.

The viruses created for general havoc were written to cause an outcry, and the trade pubs screamed at the top of their lungs. If the trades had decided not to publicize viruses, would we have had so many? Perhaps not. But one thing is certain, many computer problems would not have been misdiagnosed as viral infections if the trade pubs had not created an atmosphere of panic. A case in point: the great modem virus.

In December 1988, I worked for modem maker Racal-Vadic. As network manager for the marketing department, I was keeping a close eye on the virus situation, when a product manager brought me a fax from Telenet asking us to look into a new virus. The fax included an E-mail message from a man who claimed to have found a modem virus—that is, a virus that resides in your modem's memory and propagates over the phone lines. The message read:

I've just discovered probably the world's worst computer virus yet. I had just finished a late night session of BBS'ing and file trading when I exited Telix 3 and attempted to run pkxarc to unarc the software I had downloaded. Next thing I knew my hard disk was seeking all over and it was apparently writing random sectors. Thank God for strong coffee and a recent backup. Everything was back to normal, so I called the BBS again and downloaded a file. When I went to use ddir and list the directory, my hard disk was getting trashed again. I tried Procomm Plus TD and also PC Talk 3. Same results every time.

Something was up so I hooked up my test equipment and different modems (I do research and development for a local computer telecommunications company and have an in-house lab at my disposal).

After another hour of corrupted hard drives, I found what I think is the world's worst computer virus yet. The virus distributes itself on the modem subcarrier present in all 2400 baud and up modems. The subcarrier is used for ROM and register debugging purposes only, and otherwise serves no other purpose. The virus sets a bit pattern in one of the internal modem registers, but it seemed to screw up the other registers on my USR. A modem that has been "infected" with this virus will then transmit the virus to other modems that use a subcarrier (I suppose those who use 300 and 1200 baud modems should be immune.)

The virus then attaches itself to all incoming data and infects the host computer's hard disk. The only way to get rid of the virus is to completely reset all the modem registers by hand, but I haven't found a way to vaccinate a modem against the virus, but there is the possibil-

```
ity of building a subcarrier filter.
I am calling on a 1200 baud modem to
enter this message, and have advised
the sysops of the two other boards
(names withheld).

I don't know how this virus origi-
nated, but I'm sure it is the work of
someone in the computer telecommuni-
cations field such as myself. Proba-
bly the best thing to do now is to
stick to 1200 baud until we figure
this thing out.

                    Mike
```

At first glance, this message sounds ominous, and its author sounds like he knows what he's talking about. Telenet certainly thought so, as did a lot of persons on the bitstream. Telenet wanted to know if their network of Racal-Vadic modems was at risk to this alleged virus.

Our product manager was worried because Telenet was his biggest account. I went through the message point by point. And even though the facts are sketchy, we can examine each assertion and knock it down. Forgive me while I get technical, but if you don't understand the technology you are using, you can fall prey to misinformation.

The phone line is ancient, technically. It has a limited bandwidth (or frequency range) that served our parents and grandparents well, but has proven insufficient to carry data at speeds more to the liking of computers. Look how long it has taken to develop a modem that can cram a measly 19,200 bps over that tiny bandwidth! The modem virus was supposed to travel between modems over a sub-carrier, but there is no sub-carrier in a 2400 bps modem connection. In fact, 1200 and 2400 bps modems use the same carrier frequency.

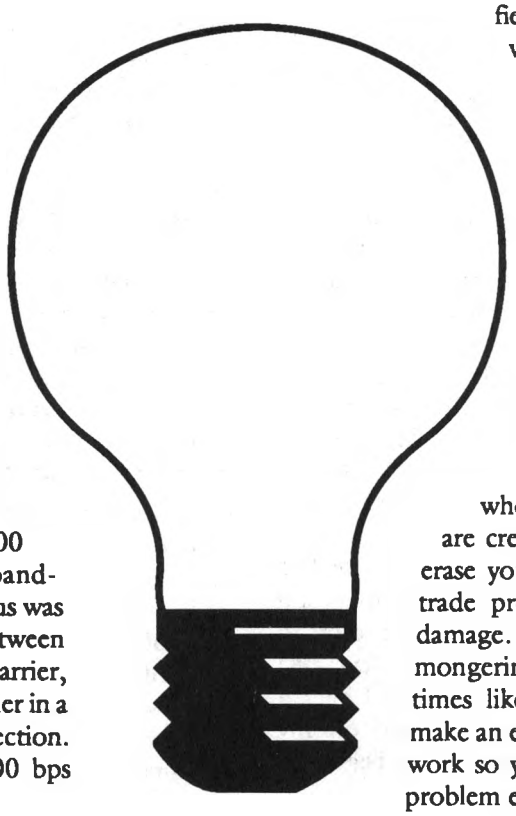
Once connected, modems become transparent to the computers in the data link. It's as if the two computers were connected directly by a cable. Data comes into a modem one character at a time. If the modem was adding virus code to the data, the error-checking routine in the communication software would detect it. In order to pass through the error-checking routines, the virus **must** be in the data **before** it is sent. That means Mike's virus resides on a BBS hard drive, not in his modem.

The third point was that the virus somehow got into the modem's read-only memory (ROM) and lurked there, waiting to pounce on an unsuspecting victim. By definition, read-only memory cannot be written to by the modem. It has to be programmed into the chip at the factory. Some modems do have memory buffers for temporary data storage, but these buffers are tiny and are emptied as soon as the link is disconnected.

By understanding the concepts of how modems work, you can quickly dismiss the great modem virus as the result of superstition and poor deductive reasoning.

The product manager notified Telenet, and I privately copied the virus message and my reply to several key sysops, informing them of the facts in case the message came their way. There seemed no better way to quell the situation.

It is important to understand the concepts of the technology you use, especially when persons out there are creating viruses that can erase your hard disk, and the trade press is amplifying the damage. We don't need fear-mongering and superstition. In times like these, you have to make an effort learn how things work so you can deal with the problem effectively.



Lightbulb
BMUG Pictures #38

A Glimpse At The Office Of The Future, Today

By Philip J. Palombo
Copyright © 1989 Philip J. Palombo

Beeep Beeep Beeep peep...Beeep Beeep Beeep Beeep peep....

...Subtle discerning sounds ever so gently urging me to wake up...it's got to be for me since it's repeating my name... Philip...Philip...**Philip, Philip**... well it was gentle, but not anymore, must be the boss. I'm sitting up in the bed. "OK, Hello, yeah OK, I'm up." (Man appears on a large screen monitor) "I've only got a few minutes before I catch a plane so I wanted to touch base with you on the specs you left in my box."

"I'm glad you called, I wanted to have a closer look before the meeting." (A Three Dimensional image unfolds and the design specifications appear in a very high resolution on the monitor.) "I'm awake, Ian, but I still can't see what I need that clearly" - a pleasant beep sounds and a scanned output on paper of the specifications loop out of the side of a white one foot cube. "Oh yeah that's better, I can see them now. How about 20 minutes alone with this?" Ian: "Sure, it'll take me about that long to slip into the airport, so I'll speak to you then."

Monitor goes black.

I've studied the drawings and strike a few keys and with a whirrrr the images magnify 400% before me on a 47" screen. Printed out on paper, I'm unable to sense the topography of the area we're studying. A probing inner voice, Coffee...Coffee... Coffee...Yeah I'll take you up on that...Its not an inner voice its my wrist computer. The topographical data I'm viewing isn't displayed with the detail I really need to see. (Strike a few keys) and whirrr the data is now displayed in a 3D perspective, the questions I've had about the access points to the cave are sitting there on the monitor with varying colors to depict the various terrain. (Strike a few keys) and whirrr get a video print and I click a mouse on some icons displayed on my computer, a real time video image begins on the large screen monitor, its aerial footage of the area. Viewing the footage has confirmed my thoughts about the area. I send off some scanned images off to Ian's electronic mail station, with a voice mail message that's forwarded to his car phone. I'm ready to review my findings. For answers to other questions that my legal department has, I click the mouse and whirrr... `Welcome to Connect Inc.™` appears on my computer. An icon of a folder with my company's logo appears and I double click on it..folders representing every department of my company scroll up on the display, I click on **Legal** and enter a "Keyword search" on the prior mining company's name and a few seconds later bingo, all their current properties appears.

Time Waits For No One..

Jagger/Richard - The Rolling Stones

With the many shapes and flavors and sizes of home offices it won't be long before we see a scenario, such as this in an office or a home. Without firm statistics it's difficult to say how many operations there are in the home, but an estimate is between 12 to 30 million. The availability of smaller central precessing units (CPU) has made much of this possible. With an increasing accessibility of personal computers (PC) and an increase in affordable technology, offices in the home has grown. Without firm statistics, its difficult to measure exactly how many offices do function from a room in a home. Recent estimates suggest that 24 million businesses in America are operated out of the home.

We're in the midst of what the futurists have been predicting—the office of the future- this article would have proved a lot easier five years ago- Now that we're living or apart of the future what's it? Technology has creeped into every imaginable aspect of our lives. Seiko now has a watch that will allow you to "program" and establish data (appointments, telephone numbers, messages,

notes to yourself) that can later be ported to your computer. We've entered a time when our job "occupation" really has become an occupation of us-an all encompassing, all consuming state of being.

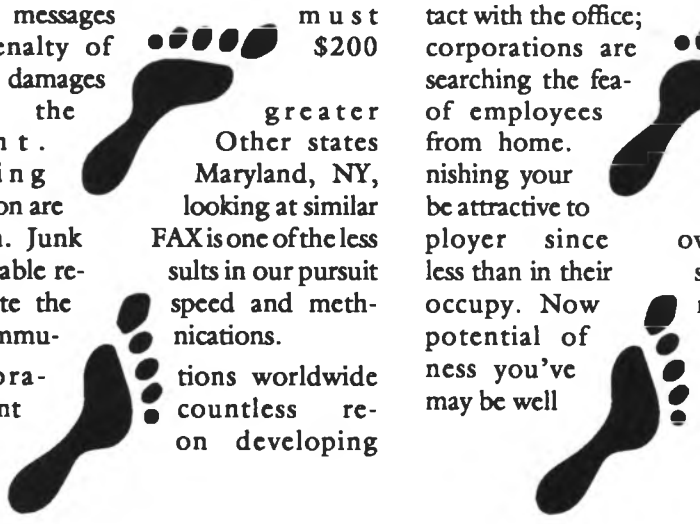
Facts, figures, and informational tools are available at your fingertips. Massive databases are now a dial up on your telephone. Well almost, its no longer necessary to have your fingers do all the walking since your computer will simply plug the numbers into a phone line. An estimated 2.5 million computers in the home are plugged into a phone line for electronic mail ("E-Mail") teleconferencing, and online databases. Technology has provided us with the tools that are intricately intertwined with the growth of the home office. On-Line telephone services, and information networks are extremely sophisticated and are a mass of knowledge that only a few years ago weren't accessible to even large corporations.

With this powerful combination new businesses have developed and rely on the fusion almost exclusively to operate their enterprise. The location of their business has become irrelevant and they're free to put themselves where ever they wish. With the proliferation of fascimile (FAX) machines in offices and homes we've now embraced another electronic means of transmitting a message. And direct advertising has followed again. Power dialers are programmed to hunt out FAX lines, with some dialing 20,000 calls a day. "Junk FAX," as it's become named will be banned beginning October 1 in Connecticut. Senders of unsolicited ad messages must pay a penalty of $200 or actual damages which the greater amount. Other states including Maryland, NY, and Oregon are looking at similar legislation. Junk FAX is one of the less than desirable results in our pursuit to facilitate the speed and methods in communications.

Corporations worldwide have spent countless resources on developing global connections for information exchange. In a study of various media from 1960 to 1977 the late MIT Professor Ithiel de Sola Pool documented a rapid growth (9% annually) in data that became available as: periodicals, tv, radio, phone calls, mail, FAXes, and telexes. There had been a slower growth (3% annually) of data consumed, indicating only about one third of the information got through. De Sola Pool's study determined that while the costs of transmitting the information is decreasing it costs more to get the message realized.

Information overload is a common state in the information age. We're regularly bombarded with messages that others are trying to get through to us. Richard Wurman's book, ***Information Anxiety*** opens: "Information anxiety is produced by the ever-widening gap between what we understand and what we think we should understand. Information anxiety is the black hole between data and knowledge. It happens when information doesn't tell us what we want or need to know." Much of this assault is unnecessary and is a direct result of our increased computing capacity. A point Wurman has stressed is, -the disease of looking good: confusing aesthetics with performance. A piece of information performs when it successfully communicates an idea, not when it's delivered in a pleasing manner. Information without communication is no information at all.

The office of your future may be one of the rooms in your home. With overhead escalating and increased ability for regular contact with the office; large corporations are responsibility searching the feasibility of employees working from home. The cost of furnishing your home office may be attractive to your current employer since overhead could be less than in their space you currently occupy. Now more than ever the potential of starting that business you've dreamed about may be well worth exploring.



RAMblings is the newsletter of W-MUG. This article was previously printed in Business Worcester, *Worcester MA, a Publication of Associated Media.*

Footprints

BMUG Pictures #38

The following are excerpts of electronic mail responses received by the author from around the country to the question, "What is your perspective on the Office Of the Future?" The service used was Connect Professional Information Network now serving about 11,000 users worldwide. Connect PIN's marketing communications coordinator, Josephine Morrissey, responded to our request for information about their services with this. "CONNECT Inc.'s mission is to provide easy to use, very cost effective global communications and information management choices to business and professional users. Organizations who use our service are in fields of medicine, law, business & finance, education, publishing and, of course, other high tech."

Bob Chernisky, a Graphic Artist living and working from his home is utilizing Desk Top Publishing in Southbridge, MA.

Date: May 31, 1989 9:01 pm PT
Item: 4098533
From: CHERNISKY Robert P. Chernisky
To: PALOMBO Philip J. Palombo - WMUG
Subj: "Office of the Future"

Hi, Phil

Futurists like Alvin Toffler ("Future Shock," "The Third Wave," et al.) and John Naisbitt ("Megatrends") talk in terms of widespread cottage industry and an information-based economy as "the next wave" for ecosystem Earth. In that kind of business climate some of us will find the "Office of the Future" in a piece of luggage.

Over the past ten years I've worked in offices which included full composition departments for internal forms, newsletters and printed materials of all kinds. That might well be superfluous in tomorrow's business environs. That's because there's no longer any need for small- to medium-sized companies to staff and equip composition personnel of their own. Today's Macintosh truly is a comp department in a bag. With my Mac in my carrying case I can set up right in a client's own office and complete his project all the way through the final proof, "right before his very eyes," as the ringmaster would say. The word processing, illustration, page-makeup, design graphics - literally everything a good prepress department needs - "It's in there!"

And the second the customer okays the final copy, I can zap it off electronically directly to a commercial printer. Today some local shops can image directly to film, ready for platemaking. In the very near future even that step will be eliminated. Copy will flash straight from the remote CPU into the front-end of an automated press.

So, when a small businessman needs typesetting or design, he'll never even need to leave his own office, much less hire a new employee or purchase composition equipment that he'll seldom use. Whenever he needs help with a publication of any kind, he'll call in a specialist to handle the job on the spot and - in a hurry!

Don Rittner, a well known journalist who writes about computers, specializes in the Macintosh. After editing at least two MUG newsletters founded the Macintosh News Service, (MNS) to provide other editors from around the country quality articles. Don lives in the Capital District of New York State and publishes "Hard Copy, for the Common Good" one of Amerika's first all electronic monthly magazines.

From: DRITTNER Don Rittner
To: PALOMBO Philip J. Palombo - WMUG
Subj: R» Office of the Future?? PALOMBO 2k Apr 29 89

Hmm, well I envision an office of the future will take two forms, one at the place of work and one at home. Depending on the job function, many people can stay at home, hooked up to a large file server at the office via modem and telecom. This can have a couple of benefits. You might see a cottage industry developing of workers at home who specialized in certain kinds of work, accounting, database entry, word processing, editorializing, etc. A company might be able to save money since they can have a large work force with a smaller overhead, if all you need is a small office with a file server and a couple of secretary's, smaller rental space is needed, also smaller costs for utilities, not to mention the rent and other incomes. Telecom charges would be minimal since most workers would be in the same area so local charges would apply. Also, if overhead costs

were reduced, a company could hire MORE people to work for them, or pay existing workers more money. If ISDN ever becomes reality (International Standard Digital Network), where voice, data and video can be transmitted at real time, picture phones will become a reality and office meetings can be had still with people at their homes. Now there are some other advantages to this scenario. Imagine, people would not have to drive to work, reducing air pollution especially in major cities. On the opposite side, some service industries would suffer, i.e. restaurants that depend on the launch crowd, gas stations, . What kind of psychological effect would this have the work force??? As it is, I do all kinds of communications with people who I never have seen, heard, therefore I have no biases against these people. I don't know if they are black, or white, tall skinny, fat, bald, etc. This makes some good relationships develop first and then when I finally meet the people, it doesn't matter, I already have a realtionship. This could be a great way to make business deals, based on what people know, rather than what they look like or come across.

The great thing about working at home is you don;t have to shave, or dress!! You can save on clothes. You take a break when you need it without worry from the boss. Perhaps, there would be more socialization because of this so four times a year the company would have to have a gathering, party, etc. Probably there would have to be a more electric nigh life since people would want to get out and socialize. IT might make for better personal realationships between family as well since more time would be spent at home. Family units could coexist, mom or dad could share in the rearing of kids,especially if both parents are working at the office at home!

Houses would have to been designed differently, where every house would have to have one or two rooms designated as workspace or offices. Somehow the homeowner would have to be compensated either by a rent subsidy by the company or a tax break. Actually it would have to be a tax break from the government since it would be an disadvantage to the company.

On the other hand, many people need supervision and so there must be a way to judge work performance. There must be incentives for production or the natural tendency to slouch off would prevail. I see this now in various jobs.

The main office would be highly automated with computers, LANs file servers, and video communications. A core work force would consist of a maybe a secretary although some of that can be automated, a manager who coordinates all of the remote work force. probably at ethical end to make sure all the equipment functions properly. There probably would be a technician who can travel to each remote site to fix anything that breaks down.

Date: May 27, 1989 9:03 pm PT
Item: 4097096

From: MORGENSTERND
David Morgenstern, BMUG
To: PALOMBO
Subj: Office of The future...

The office of the future, huh? What a subject ¬ ripe for the venting of years of frustration. Thanks for the opportunity.

I'm not convinced that the future office will be too much different than that of today. This has nothing to do with the advances in computer memory, networking, and storage. The demands of ego, control, status and greed will continue to be the key players in the office system.

In my own office-life experience, I've found expectations and demands are not based on the work,

but other more personal agenda. Personality and prejudice determine policy, rather than the company's mission.

Here are a few gloomy Gus predictions:

- The head of the corporation will have a multi-Gbyte workstation on his/her desk. The executive will dictate memos into the computer, where voice recognition will turn the memo into text. A human secretary will proof the document and send it through electronic mail to its destination. A "real" boss will have a human assistant, rather than the then more mundane (and cost effective) Artificial Intelligence helper. The AI makes lousy coffee too.
- Some employees will have to come into the office. They will resent the people that work at home and claim that, "we're the real workers." Work done out of the office site will not be trusted.
- Since there will never be enough bucks to give everyone the equipment needed, computer castes will continue to exist. Haves and have-nots will find different ways to fight their way to the top. Computer sabotage (physical and software) data terrorism (network security violations, or leaking of memos), and info-fraud (planting false data) will be the new age machiavellian standards. Bryant Gumbel, say hello.

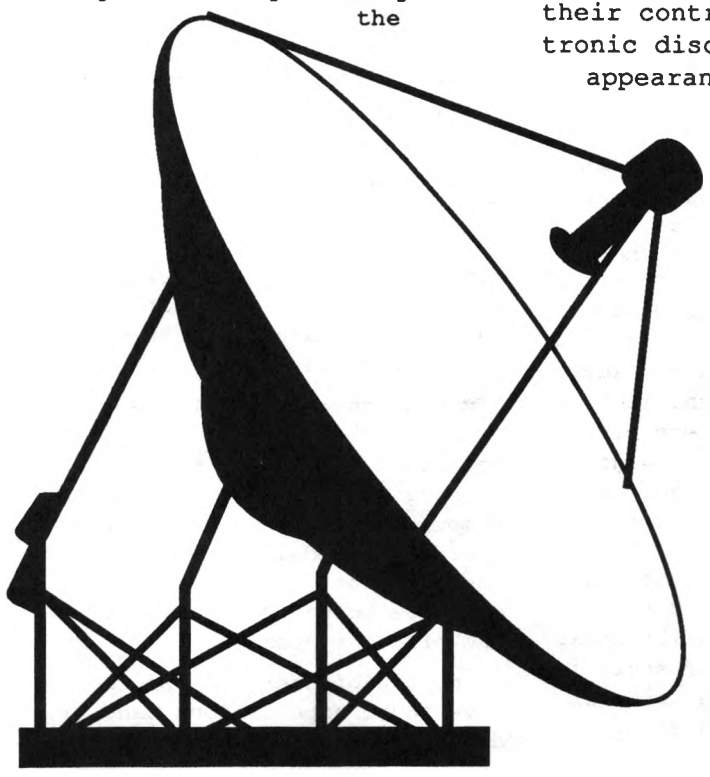
David Morgenstern is a resident BMUGer.

BMUG experiences in adding computers into our management structure may be of interest to your readers. We have a LAN in our office, providing staff with E-mail, however, many of our decisions are made by active volunteers, called Team BMUG.

Team issues are "discussed" for weeks (or much longer) on a private message area of the BMUG BBS. The entire thread of a problem can be traced and agreements reached. Some Team members live far from the BMUG office and are known more for their contributions to electronic discussion, than their appearance at meetings.

We still finalize decisions at meetings "in the flesh." There is no substitute for hearing an argument, seeing the drama, or shouting down losers.

Thanks and good luck... David Morgenstern, BMUG CheerLeader.



Satellite Dish.eps
BMUG Pictures #38

The Leaderless Non-Profit

Bernard Aboba
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Although I'm no expert, I've been involved with a few non-profit organizations over the years, from food co-ops to user groups, and many of them seem to share the same problems. As a result, you may recognize a bit of your local church, or food co-op, or volunteer fire department in this analysis.

On the Bleeding Edge

Non-profits tend to crop up to serve new markets. As such, they're often trend-setters. We had non-profit Think Tanks before consulting firms started to proliferate; we had co-ops before we had health food stores, or organic produce in supermarket chains; we had day care cooperatives before schools and community centers got into the act; we had user groups before personal computer training became a business. In fact, a good way to get an idea for a new business is probably to look at what non-profits are doing, and to try to muscle in before anyone else does.

But this also means that a non-profit is often a pioneer, serving people while community consciousness is in its infancy, and that commercial competition, better organized and better financed, can be just around the corner. Many non-profits have a hard time making it from that initial community groundswell stage, which I call the Movement phase, into the world of competition with commercial firms, which I call the Institution phase. The key to making the transition is often profitability.

Non-Profit vs. No Profits

Non-profit doesn't mean no profits. It just means that The Purpose of the organization isn't to make a profit. In fact, in order to survive in the long term, I believe that non-profits need to put substantial reserves aside, to provide for themselves when the initial enthusiasm of the organization begins to run down, and things need to be run more like a business than a movement. The ability to put those reserves aside is what ultimately allows the non-profit to go from the Movement phase to become an Insitution.

What do I mean by an Institution? Have you ever seen one of those Hollywood love fests which they have to celebrate the 80th birthday of a star whom people never appreciated when they were young? The message of these extravaganzas is "You're a Survivor." We may not love what you do, hey we might even hate it—but we're gonna toast you for having what it takes to stay around. When people who never cared for you much have to admit you've done something right, you know you're an Institution.

Although dues payments can be squirreled away to create a nest egg, very often the short term finances are such that non-profits can't put much away. Other than savings, non-profits can get the reserves to become an Institution in several ways. One way is to spin off a profit-making venture, which then provides an endowment. The Batelle Memorial Insitute owned substantial stock in Xerox, for example, and the Rand Corporation, a Santa Monica based non-profit think tank, spun off the Systems Development Corp (SDC). The reserves from the spin-off can be used to create an endowment, or to purchase a building which can serve as a permanent focus for the organization.

Another way is to develop a spectacularly successful commercial product or business, something that captures the imagination of the public. The BMUG newsletter was something like this, as it got BMUG on the map, and created the funds for BMUG to expand and rise to prominence, although certainly not enough for BMUG to become an Institution.

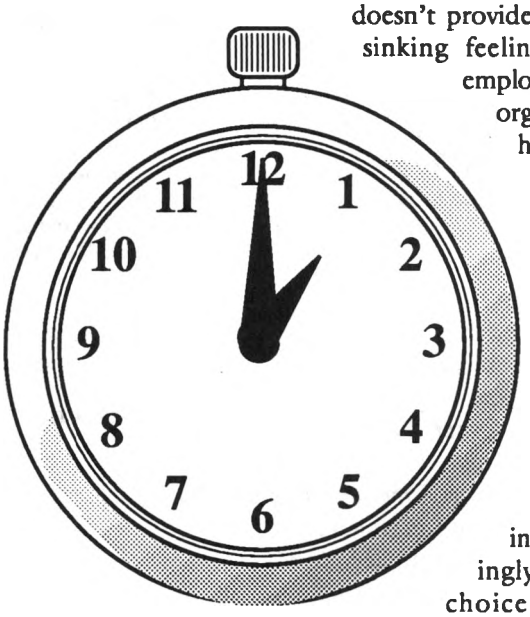
Note: Why an article about non-profit management in the BMUG Newsletter? Bernard Aboba is a member of the BMUG Board of Directors who thought that some of our members would be interested in his views on one of the issues facing this year's Board..

If you have suggestions or comments, send them to Bernard, c/o BMUG.

Develop or Die

As commercial competition crops up, as it very often does, the non-profit without an endowment faces critical stresses which it often cannot survive. One of these is the need to provide for its employees.

I firmly believe that it is the obligation of every non-profit to treat its employees humanely, and to provide health insurance and retirement benefits. People get sick, and they need to know that the organization they worked so hard for will be there for them if that happens. Everyone ages, so retirement benefits need to be provided as well. In today's world, providing these benefits is very expensive. And if the non-profit doesn't provide them, eventually a sinking feeling creeps over the employees that maybe the organization that they have cared for, for so long, won't care for them when they need it. There is only so much you can ask people to sacrifice for the community.



Pocket Watch 2.eps
BMUG Pictures #38

A prime example of this are the problems facing religious orders in the U.S. An increasingly unpopular career choice among young people, the clergy present an aging population with a dwindling base of financial support. The result has been the closing of religious schools and the disposal of property, done to satisfy the needs of clergy for a humane retirement.

Another problem facing non-profits is the need to provide a living wage. Because what non-profits do is often a lot of fun, there's a feeling that working for one is a privilege. While I would agree partially, I think there are limits to that, and that non-profit salaries have to maintain some relationship to commercial sector salaries. Either that or they have to be set up with the understanding that the employee will be free to moonlight, or in some other way supplement their income. For a non-profit to reach the Insitution phase, the employees must feel that they are getting something of equal value in exchange for the deficit in salary.

Finally, the advent of commercial competition can throw the very essence of the organization into doubt. If Safeway can provide a good selection of ethnic foods, and appealing organic produce at reasonable prices, there may not be enough left of the food co-op's reason for being for it to survive.

The Leaderless Non-Profit

Another critical demand is the need for leadership. This most often becomes a problem in the period after the original founder(s) have left the scene, and the market is beginning to change. Because the pay at non-profits is often poor, it may be impossible to find a qualified Chief Executive Officer (CEO) who wants the job. For example, it is often important to find someone who would understand the corporate values and tradition, who will have vision and will work hard, and take 60% or less of what they could make in the commercial world. People like that are rare: so rare that executive search firms often list non-profits or "alternative profits" as their most difficult customers.

When effective leaders do arise, they often become frustrated by an excessively meddling Board of Directors. Because Board members often are passionately committed to "the Movement," they often aren't just content with being Wise Old Men or Women, which is what most Boards are. Nope. They wanna make sure things are done **right**.

One of the ways this manifests itself is meddling in the organization's operations. In one food coop I worked with, members of the Board of Directors spent an entire meeting on discussing what kind of granola should be available. The month's financial statement, which showed a distressing acceleration of losses, was almost completely ignored. Non-profit Boards can thus bear a resemblance to the Red Guards of the Chinese Cultural Revolution, ready to root out Wrong Thinkers at every turn. Along with the Wrong Thinkers, the leaders and poten-

tial volunteers are often uprooted as well. The biggest mistake a non-profit can make is to get the Board of Directors involved in operations. The Board are the Wise Men and Women. Period.

If the Board of Directors lets itself get bogged down in minutae, the organization will often lapse into the mode of "governance by the bookkeepers." Because the Board of Directors is legally responsible for the fiscal solvency of the non-profit, they tend to be cautious as a rule. Without leaders to provide a vision for the organization, the tendency is to let the bank balance determine the breadth of the vision. In reality, it's the other way around—it's the vision that makes the bank balance.

Out of the Crisis

The most difficult (and the most important) thing for the Board of Directors to do is to **Let Go**. Letting Go means retiring from operations, and letting the management run the organization. If the Board of Directors are also volunteers, often running the non-profit is just so much fun that it's hard to give up, hard to imagine what else to do next that could be anywhere near as fulfilling. This kind of thinking is born more out of fear and insecurity than out of love for the organization, and the common result is that everyone gets Stuck.

The first symptom of Stuckness is when volunteers dry up. People have an amazing ability to sniff out an organization in trouble, and to know in general what the source is before they can name the details. It's like living in a house with a dead fish —you might not be able to distinguish whether it was a salmon or a mackerel, but you know something's wrong. The irony is that the residents of the house often get used to the smell, and accept it as a fact of life, so that they don't understand why no one visits them anymore.

What volunteers are responding to is their sense that the organization is being strangled by the Board. Oh, they might ask for volunteers from time to time, but people know whether they will ultimately have the power to change the organization or not. They can sense it. So the first symptom of a sick organization is when the response rate, whether to volunteer requests, job offers, or to questionnaires, slows to a trickle.

If this trend is allowed to continue, eventually the organization will become ill, just like people in a room without ventilation. Particularly if the non-profit has not reached the Institution stage, if new people are not recruited, the odds are overwhelming that key employees will eventually get disgusted and leave, taking key organization expertise with them. A small non-profit can lose its institutional knowledge very quickly this way.

More common is for a weakened organization to expire due to a crisis which the organization no longer has the institutional will to survive. The crisis could be the loss of key employees; forced relocation from a central meeting place or office; a financial crunch brought on by poor cash flow management; release of a substandard product brought on by lack of communication of corporate values and goals. While these crises might have been easily overcome in the old days when everyone was committed, the failing non-profit can't marshall the resources to save itself because down deep people aren't really sure whether it's worth saving.

Fear of Flying

Letting go is not just an action, it's an attitude. Just like there are people in this world who can't retire because they can't stop working, "letting go" doesn't mean just allowing new people to take part in the organization. It means letting them run it as well. Every good organization, and every great nation, renews itself periodically, and gives up its ties to the past. Non-profits and people are no different in this respect.

Responsibility and Accountability

In theory, the management of the non-profit is in charge of the operation of the organization, and responsible only to the Board of Directors. However, many non-profits operate without a Chief-Executive Officer, usually because of the difficulty of finding a suitable individual. Without an official leader, leadership is by its very nature diffuse, and so unless the management

When Bernard Aboba isn't working at Failure Analysis Associates in Palo Alto, he's being chased by bears in Yosemite or acting as Sysop of MailCom Public USENET. His ARPA address is bernard@mailcom.fidonet.org, or sun!apple!mailcom!bernard on UUCP.

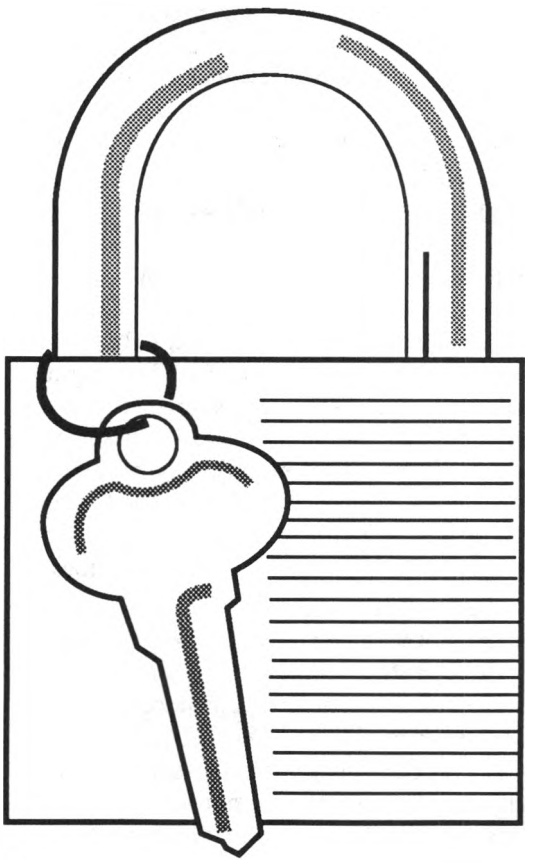
speaks with one tongue, the natural tendency is for them to form alliances with elements of the Board or the Volunteers. The result is the loss of management iniative amidst a wave of politicking.

Just like nations without effective central governments tend to degenerate into civil strife, the same is true of non-profits. The way to reverse the trend is to put the onus back on the management by refusing to intervene in management problems. In addition, the evaluation procedures should be oriented towards getting subordinates to rank their superiors, and having members of management evaluate each other. This again puts the onus on management to work well together, rather than to please the Board.

Ultimately the management must be responsible for the operation of the organization if it is to survive. This means holding management accountable for results, and rewarding or punishing accordingly. This can be a problem in non-profits where everyone knows everyone else. An insufficient raise can be interpreted as a vote of no-confidence, rather than an evaluation of performance which can change as performance improves. Since a good part of the benefit of working at a non-profit is the atmosphere, acrimonious squabbles must be avoided at all costs.

Once Again, With Feeling

Non-profits, particularly those without a CEO, tend to have a problem with leadership. The problem is compounded if the Board of Directors takes to meddling in operations. In these circumstances, the key to making things work is Letting Go, and getting out of the way.



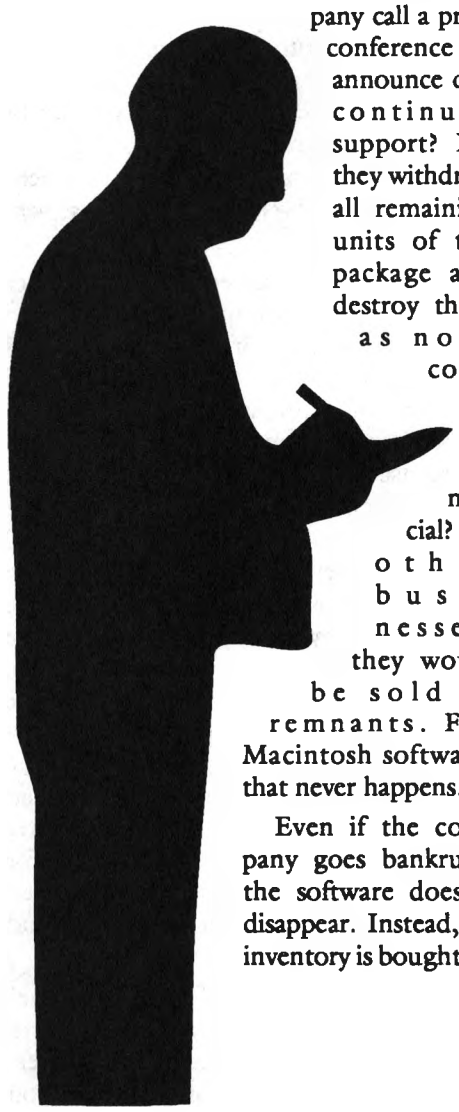
Lock & Key
BMUG Pictrues #38

Old Software Never Dies

It Just Gets Sold To The Unsuspecting

by Scott Beamer

Ever wonder what happens to old software—programs that have proven non-competitive in their field? What happens when the companies that released these products to the retail market decide to no longer provide live tech support or to no longer pay for continuing development to keep a package compatible with newer Macintosh operating systems or up-to-date with competitors?



Does the company call a press conference to announce discontinued support? Do they withdraw all remaining units of the package and destroy them as non-commercial? In other businesses, they would be sold as remnants. For Macintosh software, that never happens.

Even if the company goes bankrupt, the software doesn't disappear. Instead, its inventory is bought up by a software junk dealer. Sometimes, they put a new sticker on the packages reflecting the new ownership; more often, they don't bother.

The companies that don't actually file for bankruptcy—but are reduced to an answering machine or a P.O. Box (not checked every day)—sometimes print up still more of their non-competitive software. They find that they can sell a trickle even if the package has superior competition and has been roundly panned by the reviewers.

What bothers me the most is the tacit conspiracy between the retailers, vendors, advertising world, and the magazines. No place is this easier to observe than in the Macintosh magazines.

It would appear that these software junk dealers and moribund corporations are "thick as thieves" with the Mac monthly magazines. While such companies can rarely afford to advertise in the magazines, the mail order merchants have these products richly sprinkled through their ads; and the overview articles or product descriptions frequently include products that won't even open with a finder less than two years old.

I wonder if the Software Vendors Association, which is about to launch another anti-piracy campaign, would be willing to take on the task of helping warn the public of these rip-off products that give their industry a black eye. Or, do they subscribe to the fine old capitalist tradition of "Caveat Emptor, Buddy"?

As software is such a volatile commodity, one suggestion offering the consumer more protection might be to request all reliable vendors to date all their software packaging (ala video tapes).

Scott Beamer is a member of BMUG's Board of Directors.

Male Waiter.eps
BMUG Pictures #38

Pirates

by Larry Pacilio

When the term "software piracy" is mentioned it's usually within the context of individu-

CopyIIMac 7.2
Central Point Software Inc.
15220 NW Greenbrier Pkwy., Suite 200
Beaverton, OR 97006
(503) 690-8090
Commercial

XPress 2.1
Quark, Inc.
2525 W. Evans Ave. #220
Denver, CO 80219
(800) 543-7711
$695
Commercial

als making unauthorized copies of software for their own use. We all know this goes on. The Macintosh operating environment perhaps presents too strong a temptation for many folks to resist (in the form of ease of copying non-copy protected software). There are even programs (like *Copy II Mac*) which allow us to circumvent the sometimes elaborate copy protection schemes instituted by some software publishers in the hope that they might realize the full income earning potential of their creation. As common a practice as it might be, duplicating software that has not been purchased by its user represents a clear violation of copyright law.

Folks who would never think of walking in to a retail outlet and out again with a stolen box of software don't hesitate to copy and use a program, as the risk of being caught is negligible. Effectively, this fear of apprehension is the only difference in the two acts. Oh yes, the victim changes too. In copying software we deny income to the author (or authors, as is more often the case these days). With theft, we deny the retailer his due. Is one act perched on any higher moral ground than the other?

As a photographer and commercial artist, I copyright material with some regularity. I'll readily admit that the copyright law, as implemented (as opposed to written), doesn't have very sharp teeth. At least statutes exist, providing some protection for the creative professional. Unless you've had the experience of seeing your labor utilized without your authorization and absent of any compensation, it may be a bit difficult for you to relate to the anger and sense of violation you experience on seeing work blatantly and brazenly ripped off.

In short, what I am saying is this: if you're using a certain piece of software with regularity, then pay for it. If you've taken a copy from a friend or associate to look at in order to discover if the application will fill your needs, fine. Software is expensive these days and one doesn't want to be left holding a product that won't fulfill a need. In response to this fact, reputable vendors, like MacConnection, in concert with certain manufacturers, are offering 30 to 60 day money back guarantees should a package fail to meet your expectations. This policy couldn't be more equitable.

What I'd like to discuss next is a fresh definition of the phrase "piracy" as applied to software. Delivered with abundant clarity by two noted Macintosh software manufacturers over the course of these past thirty days, Quark and Aldus, I found myself stunned by their barefaced greed and utter disregard of their users. It seems the Jolly Roger has been adopted as the new logo of both these venerable firms.

Early in April I received an upgrade notice from Quark for Version 2.1 of *XPress*. I had purchased this software less than 90 days previous and was still covered by my original warranty which provided for free upgrades during the coverage period. Quark demanded I purchase and Extended Technical Support package for $150 in order to receive this or any future upgrades. Users outside of the 90 day warranty period were to pay $300 for the upgrade! Without being long winded, let me say that for many reasons, beyond the simple outrage of the price, this offer could be viewed as no bargain. I phoned them, wrote them and raised hell with them, as did apparently many other equally outraged *XPress* users. By the third week in April Quark had altered its position and, in a three page letter to users, both stated its rationalizations for its abandoned pricing policy and provided order forms for upgrades at the amended and more realistic prices.

Aldus' ploy was a bit different, but nonetheless a somewhat transparent attempt to grossly maximize profits by convincing users that not only was less more, but that you

should be happy to pay more for less. Get this...

Aldus has recently released a presentation product called *Persuasion*. I had a demo version of the program which Aldus had sent as part of a promotion. The software intrigued me. I've used *PowerPoint* extensively and am now learning *Cricket Presents*. Both these products have delivered excellent results. Still *Persuasion* had my interest piqued. I think it had to do with the similarity of interface between it and Aldus *FreeHand*, one of my favorite programs. Anyway, I phoned MacConnection and ordered it.

When it came the next day I discovered, to my surprise, that no driver was included to allow me to output to a slide service so that I might produce 35mm color slides. This was an advertised capability of the product. I phoned Aldus and was told that drivers were to be purchased from the service bureau and was provided with phone numbers for Autographix and Genigraphics. Autographix had a driver available, "$100 please. MasterCard, Visa, or American Express?" Genigraphics thought they might have a driver available by mid-July and no, a price had not been set.

PowerPoint comes bundled with a Genigraphics driver and a coupon for three free slides (about $40 worth). *Cricket Presents* includes an Autographix driver and a coupon for six free images (about $80). Both those products retail for roughly $100 less than *Persuasion*. All I can say that as nice as *Persuasion* might be, this program seemed far from being a bargain and could only be viewed as a well calculated move on the part of Aldus to deliver less product than its users deserve or believe they are getting in order to maximize its own profit.

I wrote Aldus, informing them that I was not a happy camper. To their credit, they responded promptly in the form of a phone call from *Persuasion's* product manager. I was told that Aldus had altered its policy relative to the sale of the driver by offering, in concert with the associated service bureaus, a rebate offer. Users will henceforth receive a $100 credit applicable to services received from Autographix after purchasing the driver. I was told that a similar arrangement would be offered through Genigraphics once that driver was made available. As things stand now, *Persuasion* is still a $100 more than its primary competition, but at least users won't feel as if they'd been hit with a hidden and substantial cost.

As a point of reference, last year Aldus posted revenues of $79 million, an increase of 100% over 1987's figures with net income increasing 87%. While it's certain that a share of this growth is attributable to increased sales, it would seem a portion of the dollar glut came as the result placing over overpriced products before a largely innocent or ignorant public.

I know... that's capitalism. Maybe you're right. But I don't think a capitalistic enterprise need be denuded of its conscience and its obligations to its customers. When the Mac began it was a different spirit that infused the machine's creators, the users and the authors of the software. It was something of an adventure for everyone, a commonality of purpose somehow seemed pervasive. Remember now, this was way back, when Apple was still warm and cuddly.

Today the Mac is making significant inroads in the heretofore IBM dominated corporate market. The machine and its maker are corporately credible. This is business. This is money. Apple provides a lead and others follow. Last fall Apple arbitrarily boosted its prices for its most desirable machines. They cited the rise of manufacturing costs, operating expenses, etc., etc., etc. as making the hikes an unfortunate necessity. Following two months of well reported public outrage over the lack of fact contained in Apple's rationales and, perhaps more importantly to Apple, confronting sagging sales, the company returned to its former pricing.

These days some software authors/publishers seem perhaps less concerned with the satisfaction of the user (in the form of fair value for dollars spent) than with expansion into global markets and the consequent bloat of their gross margins. In a market such as this, let the buyer beware.

Both Aldus and Quark pleaded their cases to me based on the perceived necessity of the pricing structure. The definition of necessary is malleable, applicable on a situational basis, but not existing as a universal. It seems how-

Persuasion 1.0
Aldus Corp.
411 First Ave. S., #200
Seattle, WA 98104
(206) 622-5500
Commercial

PowerPoint 2.01
Microsoft Corp.,
16011 N.E. 36th Way,
Box 97017
Redmond, WA 98073-9717
(206) 882-8080
Customer Information Center 800 426-9400
Product Support Staff (206) 454-2030

FreeHand
Aldus Corp.
411 1st. Ave. S., #200
Seattle , WA 98104
(206) 622-5500
Commercial

Cricket Presents
Cricket Software
40 Valley Stream Pkwy.
Malvern, PA 19355
(215) 251-9890
Commercial

ever, as it was with Apple's price increases, that in certain cases necessity has become the larvae of greed. The ease with which Apple, Quark and Aldus backed off these "necessary" pricing structures when users responded negatively and in numbers provides evidence of an initial fabrication.

In the end, I suspect this is something of a call for honesty. As users we should be honest with ourselves when defining what's necessary in order for us to accomplish whatever task it is we have before us. Is a certain program going to genuinely boost our productivity? Research it and perhaps try it out. But if you're going to use it, if it really gets the job done for you, if it earns you some money, then buy it.

As for the corporations that provide us with the software, I'd like to imagine that this information industry could set a new course for corporate operations in this country. We're charging headlong into the information age, with the software publishers providing the pavement on which this trip is being conducted. They need not repeat the sins of their fathers, the captains of the industrial age, relative to maximizing profit despite the cost to worker, consumer, society or the environment.

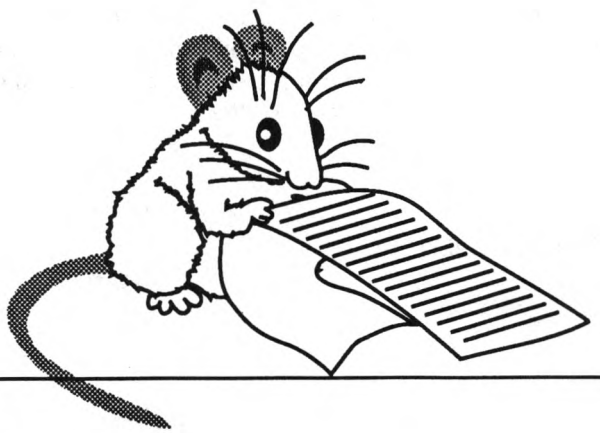
Greed in any guise, personal or corporate, is an unattractive quality. As individuals we should make an honest assessment of needs as opposed to desires and act in accordance with what we know to be the truth for us. And we must also hope that we can come to expect fair treatment from those who supply the tools of this trade. If the users feel abused by the industry their consciences will be rendered numb to abuse of the industry in the form of piracy. The exercise of honesty and conscience will dictate a better way for business to be done. It's a two way street out there, friends.

Autographix
100 Fifth Ave.
Waltham, MA 02254
(800) 548-8558
(617) 890-2124

Genigraphics
131 Steuart
San Francisco, CA 94105
(415) 543-9989

Tuesday WellTuesday Well
BMUG Pictures #42

Appendices, etc.
Glossaries,



Summer / Fall - 1989
Membership Disk

StuntCopter

GunShy 1.2

SCSIProbe

FileList 1.2

Floppy Fixer 1.0

ColorFinder

Boomerang

Blackout

init cdev 2.0

Surprise! Here is this newsletter's membership disk. We've searched high and low for the best in Mac software that we can distribute to you. Really. Everything on this disk is compatible with all Macintoshes from a Mac Plus to a Mac IIcx. The CDEVs won't work on a 512KE or earlier Macintosh. And *ColorFinder* will only work if you have a color machine.

StuntCopter is a great games for kids of all ages. The trick is to drop your man from a helicopter and land him on a moving wagon. By Duane Blehm.

GunShy is something like the Chinese game Mai Jong or the Macintosh game *Shanghai*. The object is to move all matching tiles from the board. It's fun and it's in color for those of you who have Mac IIs. By E.C. Horvath, not Shareware but Everywhere.

SCSI Probe is a marvel. Its main purpose in life is to mount SCSI drives, but it can do so much more — and only 4K in size. *SCSI Probe* tells you what kind of drive is inside that box of yours, and the drive's ROM version, too. It goes inside your System Folder and will show up in the Control Panel. By Robert Polic.

FileList is a disk cataloger. And a good one at that. It can save as a text file so you can import your list into a database or word processor. BMUG used it to index all 450 floppy disks in our disk library.

Floppy Fixer is a program that everyone will use eventually. It can recover files from damaged floppy disks. While it's not as good as SUM, it will do the job. Read the docs before you make any attempt to recover files. It's shareware, so if you recover even one file, please send in your fee of $20. By Frank Beatrous. Send the fee to the Lupus Foundation of America, 1717 Mass Ave,N.W. Suite 203, Washington, DC 20036.

ColorFinder will breathe life into your gray Desktop. If you have a color machine, it can repaint many of your icons with the 256-bit colors in the Mac II. It was written at the MacHack conference. And it works very well. By Chris Derossi.

Boomerang is a great utility. It adds a special pop-up menu to the box that shows up when you choose **Save** or **Open**. It lets you jump to a file or folder directly, make new folders, and more! It's an INIT and shows up in the Control Panel. It's by Hiroaki Yamamoto.

Blackout is a screen saver CDEV. It looks something like the old *Stars* screen saver. It's shareware $5 by Andrew Welch. Send the fee to Andrew Welch at Mark 3 Software, 29 grey Rocks RD, Wilton CT 06897.

INIT CDEV will control the INITs and CDEVs inside your System Folder. It works OK, but it may be incompatible with *MultiFinder*. If you have any problems, take it out. By John Rotenstein, and it's PostcardWare. If you use it please send a postcard of your hometown to John Rotenstein, PO Box 165, Double Bay, NW, 2028

Enjoy.

Steve Costa, BMUG Software Librarian.

Annotated, Opinionated BMUG Bibliography

Compiled by Avi Rappoport

This is an annotated listing of all articles from all the BMUG publications. It covers the *BMUG Developers Group Newsletter* from 1985, *BMUG on HyperCard*, and all *Newsletters* from Spring 1985 to Fall/Winter 1989. There are some **great** articles in these publications, and some interesting history—the more things change, the more they stay the same. Most of the pre-1988 Newsletters are out-of-print, but there are copies to read at the BMUG office, and most members kept their copies, so keep looking if you want to read a particular article.

This bibliography was created in *EndNote*, with the assistance of Niles & Associates, Inc. (my employer).

The annotations are my opinions, and I take full responsibilty for my mistakes. I make no guarentee, however, about current availability of products.

128K MACS

Fatten Your Mac: The Dr. Dobb's Article. Tom Lafleur and Susan Raab, *BMUG Newsletter*, Spring 1985: p.16-18.

How to upgrade a 128K Mac to 512K. Including soldering iron tips for removing chips, photos, and tables.

I'm Upgrading. Ken Wait, *BMUG Newsletter*, Fall (Late) 1986: p.248.

Poem to the process of upgrading.

Now for some additional comments:. Kevin Mitchell, *BMUG Newsletter*, Spring 1985: p.15.

Warnings about the Dr. Dobb's upgrade method.

On doing-it-yourself the Dr. Dobb's way. Linc Rhoads and Kevin Mitchell, *BMUG Newsletter*, Spring 1985: p.14-15.

Fear and Loathing while upgrading.

512K MACS

MacMEGABYTES™ One-Meg Upgrade. David L. Foster, *BMUG Newsletter*, Fall 1985: p.49-50.

Beck-Tech's expansion.

How to engorge your Mac: Going Beyond 512K. Paul Campbell, *BMUG Newsletter*, Fall 1985: p.66-70.

Technical article on ways to add memory. Not recommended for non-techies.

Speeding Up the Old Mac 512, or... What to do Instead of Watching the Watchhands Spin. Joseph Schaller, *BMUG Newsletter*, Fall (Late) 1986: p.239-245.

Hardware and software fixes, strategies for getting more out of less. Prices and programs are obsolete, but this should be valuable to the those who still own 512Ks.

The MonsterMac™ Two Megabyte System. John Sawyer, *BMUG Newsletter*, Fall 1985: p.46-48.

Report on a 2MB memory upgrade by Levco, as of date of publication.

TurboCharger. David L. Foster, *BMUG Newsletter*, Fall 1985: p.91-92.

RAM disk software from Nevins Microsystems.

Upgrading to the New ROMs: Making Changes Safely. Daniel Kegan, *BMUG Newsletter*, Spr./Sum. 1987: p.68-69.

Funny description of what it felt like to replace 64K ROMs with 128K ROMs.

Why Everyone Should Get The New ROMs. Gordon Haig, *BMUG Newsletter*, Fall (Late) 1986: p.246-247.

Advocates upgrading a Mac 512K to a 512KE: all the reasons are still valid and more so.

Avi Rappoport likes to read the BMUG Newsletter *cover-to-cover, so she volunteered to compile this bibliography. In her spare time, she does Customer Support and Software Developement at Niles & Associates, and is the proud holder of a Master's degree in Library and Information Studies.*

ACCOUNTING

All the Home Accounting Programs. Scott Beamer, *BMUG Newsletter*, Fall (Late) 1986: p.101-106.

Good review of accounting programs, but all of them have changed by Spring, 1989.

Dollars and $ense 4.0. Paul B. Blood, *BMUG Newsletter*, Summer/Fall 1988: p.225-228.

How this program can be used for accounting.

Mac Accounting Crises: In Search of the Mac Accounting Messiah. David Satava, *BMUG Newsletter*, Win./Spr. 1989: p.199-202.

Sobering and enlightening review of the limits of current Mac accounting programs, and of reviews in magazines. Critical notes about: *MacAccountant, Dollars and Sense, Strictly Business, Insight, Great Plains,* and *SBT*, with his reasons why they are unacceptable.

APPLE][GS

The Heart of Apple][is still beating. Linda Custer, *BMUG Newsletter*, Fall (Late) 1986: p.249-252.

Cheerful review of the Apple][GS from a long-time user standpoint.

ARTIFICIAL INTELLIGENCE

Advice From A Caterpillar: Both Sides of Expert Systems. Beverley Kane, *BMUG Newsletter*, Spr./Sum. 1987: p.141-144.

Good overview of the state of Expert Systems, including Neural Nets.

Alfonso's Head is Half Connected: An Interview with Racter. Alfonso Qwerty, *BMUG Newsletter*, Fall (Late) 1986: p.202-204.

An interview with *Racter*, a natural language dialog program for the Mac.

Alice's Lisp Machine. Chris Stacy, Alan Wecsler and Noel Chiappa, *BMUG Newsletter*, Fall (Late) 1986: p.205-209.

Arlo Guthrie meets the Lisp machine

Artificial Neural Networks: An Example Program in Pascal. Mark Watson, *BMUG Newsletter*, Spr./Sum. 1987: p.153-160.

Covers basic concepts of Neural Networks, and listing displays a way to create one.

BMUG Choice AI Products: A Representative Listing from Fact and Fantasy in Artificial Intelligence, with Robot Ratings. BMUG, *BMUG Newsletter*, Fall (Late) 1986: p.210-212.

List of mostly books about various aspects of artificial intelligence (from serious to silly).

Electricity for My Dreams — An Overview of Artificial Intelligence. Beverley Kane, *BMUG Newsletter*, Fall (Late) 1986: p.175-179.

History and concepts of artificial intelligence. Nothing specifically to do with the Mac. Doesn't include neural nets.

Interface Builder: Beginning of a New Era of Mac Flexibility? Dan Shafer, *BMUG Newsletter*, Spr./Sum. 1987: p.146-152.

Description of a product which seems to have sunk without a trace. The idea was that programmers would write their interface in *ExperCommon LISP* using the *InterfaceBuilder* package, and users could modify it using the *IB Editor*. A similar concept of user control is being used in *Microsoft Word 4.0*, and other programs.

Robotics. Jim Strope, *BMUG Newsletter*, Fall (Late) 1986: p.199-201.

Overview of the state of robotics as of 1986.

ARTIFICIAL INTELLIGENCE — PROGRAMMING

***ExperLisp* 1.5: How the Young Prodigy Learned Manners and Hygiene Without Losing Soul and Spirit.** Bill Woodruff, *BMUG Newsletter*, Fall (Late) 1986: p.184-188.

Favorable discussion of *ExperLisp* version1.5. Still available (as are other LISP packages) as of Spring, 1989.

ExperProlog II: A New Approach to a Newly Popular Language. Dan Shafer, *BMUG Newsletter*, Fall (Late) 1986: p.192-198.

Background of *Prolog* and review of *ExperProlog II*—still available, spring, 1989.

Introduction to Object Logo. Andrew Shalit, *BMUG Newsletter*, Spr./Sum. 1987: p.162-168.

Clear introduction, well written. Still available in spring, 1989.

MacScheme. Andrew Shalit, *BMUG Newsletter*, Fall (Late) 1986: p.189-191.

Favorable review of *MacScheme*, version 1.2, which is a modern dialect of LISP. Still available in spring, 1989.

Prologue to LISP. Beverley Kane, *BMUG Newsletter*, Fall (Late) 1986: p.180-183.

Description and examples of LISP. Comparisons with BASIC and Pascal.

BMUG CHOICES — 1985

[Magazines, Books & Dealers]. BMUG, *BMUG Newsletter*, Spring 1985: p.11-12.

BMUG Choice Products. BMUG, *BMUG Newsletter*, Fall 1985: p.179-184.

BMUG Choice Products. BMUG, *BMUG Newsletter*, Spring 1985: p.108-111.

BMUG CHOICES — 1986

BMUG Choice Products. BMUG, *BMUG Newsletter*, Fall (Late) 1986: p.389-401.

Almost entirely out-of-date information.

BMUG CHOICES — 1987

BMUG Choice Products. BMUG, *BMUG Newsletter*, Spr./Sum. 1987: p.17-30.

Picks of the products, as of the date published.

Choice Products. Team BMUG, *BMUG Newsletter*, Fall/Win. 1987: p.27-42.

Prices and many products are obsolete.

BMUG CHOICES — 1988

Choice Products. BMUG, *BMUG Newsletter*, Summer/Fall 1988: p.6-21.

Prices and products have changed by Spring, 1988.

BMUG CHOICES — 1989

Choice Products. BMUG, *BMUG Newsletter*, Win./Spr. 1989: p.8-23.

Useful opinions about hardware, software, vendors, books, shows... Time-sensitive.

BMUG HISTORY

About BMUG. Reese Jones, *BMUG Newsletter*, Fall 1985: p.4-6.

About BMUG.... Raines Cohen, *BMUG Newsletter*, Spr./Sum. 1987: p.13-16.

An Introduction to BMUG. Reese Jones, *BMUG Newsletter*, Spring 1986: p.1-5.

An Introduction to BMUG. Stephen Howard, *BMUG Newsletter*, Summer/Fall 1988: p.3-5.

How It Was In 1988.

An Introduction to BMUG: The state of the group address. Reese Jones, *BMUG Newsletter*, Fall (Late) 1986: p.1-8.

Includes information on the Floppy Disk Review Project.

BMUG after One Year. Reese M. Jones, *BMUG Newsletter*, Fall 1985: p.7-10.

Interesting description of what it was like in 1985, including how the first Newsletter was printed on one of the early LaserWriters at Apple. Tips for user groups.

Carrying on a Weekly Tradition: Running a Macintosh Users Group. Ronald A. Schmidt, *BMUG Newsletter*, Fall 1985: p.16-18.

Introduction and General Information. BMUG, *BMUG Newsletter*, Spring 1985: p.1-4.

What was going on at the beginning.

The People of BMUG. Raines Cohen, *BMUG Newsletter*, Win./Spr. 1989: p.5-7.

Overview of BMUG history and personnel, and plans, as of the end of 1988.

The State of the User Group. Stephen Howard and Raines Cohen, *BMUG Newsletter*, Fall/Win. 1987: p.6-15.

The Ultimate BMUG Thursday Night...and You Are There. Ted Jones, *BMUG Newsletter*, Summer/Fall 1988: p.248-250.

The more things change, the more they stay the same.

BMUG NEWSLETTER

Format? What Format? The Guts of the Fall '85 Newsletter. Dan Wood, *BMUG Newsletter*, Fall 1985: p.11.

Short notes about early DTP.

How the Newsletter was Done. Carolyn Sagami and Raines Cohen, *BMUG Newsletter*, Spr./Sum. 1987: p.1-4.

How the Newsletter was Done. Carolyn Sagami, *BMUG Newsletter*, Fall/Win. 1987: p.1-5.

Introduction: Just another BMUG Newsletter! Stephen Howard and Randy Simon, *BMUG Newsletter*, Win./Spr. 1989: p.3.

General information about the nature of the BMUG Newsletter as of date.

Preface: How the Newsletter Was Done. Carolyn Sagami, Zig Zichterman and Randy Simon, *BMUG Newsletter*, Summer/Fall 1988: p.xi-xiii.

Preface: How the Newsletter Was Done. Randy Simon Editor-Imperitus, *BMUG Newsletter*, Win./Spr. 1989: p.xiii-xv.

How this newsletter was done, with plans for the future.

Stylesheet for Editors. Randy Simon, *BMUG Newsletter*, Win./Spr. 1989: p.337-339.

Stylesheet for people writing or editing Newsletter articles.

The "Newsletter:" What we do in between ice cream runs. Kee Nethery, *BMUG Newsletter*, Fall (Late) 1986: p.8-10.

CAD (COMPUTER-AIDED DESIGN)

CAD on the Mac — Part I. Kevin Matthews and Margaret Cantwell, *BMUG Newsletter*, Win./Spr. 1989: p.59-60.

Description of the state of Mac CAD as of date. Includes description of the basics of CAD programs.

CD-ROM

The Second International Conference on CD ROM. Stephen Michael, *BMUG Newsletter*, Spr./Sum. 1987: p.222-224.

State of CD-ROMs as of Spring, 1987.

COMMENTARY

An Exclusive Interview with Mitch Hall. C.J. Weigand, *BMUG Newsletter*, Fall/Win. 1987: p.243-245.

Mitch Hall & his company host the MacWorld Expo, and this is an interview from the end of the August 1987 Expo in Boston.

bad Vibes in betaville. David Morgenstern, *BMUG Newsletter*, Summer/Fall 1988: p.COMMENTARY.

About the unethical practices of releasing untested and buggy software.

BMUG Meets MicroTimes. David Morgenstern, *BMUG Newsletter*, Win./Spr. 1989: p.24-42.

Compilation of David's articles for *MicroTimes* from July through December, with notes about How It Turned Out, written around December. Covers everything from viruses to the NeXT machine.

How do we pick our Computers. Enrique Zambrano, *BMUG Newsletter*, Fall (Late) 1986: p.379-381.

Short and opinionated history of computers, along with praise for the Mac.

IBM PC vs. Macintosh: The Movie. David Morgenstern, *BMUG Newsletter*, Summer/Fall 1988: p.263-264.

Scathing discussion of a debate held by the Boston Computer Society and *PC Week*.

In the Beginning was the Word. David Morgenstern, *BMUG Newsletter*, Fall/Win. 1987: p.199-209.

General information about the software life-cycle. Specific information about how Microsoft screwed up in designing and testing *Word 3.0*, and how the Macintosh Computer Press didn't warn people of the problems.

On the Greatest Personal Computers. Willy Liao, *BMUG Newsletter*, Fall/Win. 1987: p.137-141.

Discussion of the futility of rating and comparing computers and the real strengths of various minicomputers.

On-Line Help. Robert Campbell, *BMUG Newsletter*, Fall/Win. 1987: p.152-156.

Thoughts on the nature of good online help.

Silicon Valley Guide to Dating. Guy Kawasaki, *BMUG Newsletter*, Spr./Sum. 1987: p.273-276.

A real guide to dating for computer people (mostly men). This is not parody, it's actually pretty nice.

The Cult of the Mac and the New. Stephen Howard, *BMUG Newsletter*, Summer/Fall 1988: p.251-252.

Hallucinogenic prose

The Information Service of the Future: Bulletin Board or Public Library? Bernard Aboba, *BMUG Newsletter*, Fall/Win. 1987: p.189-192.

How electronic bulletin boards could become electronic public Libraries and incorporate the best of both parents.

The Mac Patent. Mark Thorson, *BMUG Newsletter*, Fall/Win. 1987: p.239-242.

What it means that Apple & Bill Atkinson patented **regions** (arbitrary pieces of bitmap).

COMMENTARY — APPLE

Bigger and Better Macs? I.I. Butler, *BMUG Newsletter*, Fall/Win. 1987: p.211-221.

Polemic on the decisions Apple was making at date of publication, and disappointment at the dominance of marketing in the company.

Developing Entertainment Software for the Macintosh. Scott Berfield, *BMUG Newsletter*, Summer/Fall 1988: p.289-291.

How hard it is to sell games on the Mac, with Apple's anti-entertainment bias.

Hogan's Soapbox. Thom Hogan, *BMUG Newsletter*, Win./Spr. 1989: p.266-269.

Open letter to John Sculley about the problems that users have had with Apple and suggestions for improvements.

Monopoly, Macintosh and the NeXT. Frank Kofsky, *BMUG Newsletter*, Win./Spr. 1989: p.280-281.

How Apple could have produced a NeXT-like computer, and how their monopolistic tendencies are hurting their users.

Odyssey: Of Thomas Edison or Betty Crocker? Scott Kronick, *BMUG Newsletter*, Summer/Fall 1988: p.292-293.

Review of, and reaction to, John Scully's book, *Odyssey*, and discussion of the potentially disasterous course of Apple at the date of publication.

Scully Reports: The New Renaissance. A.C. Mishra, *BMUG Newsletter*, Summer/Fall 1988: p.279-280.

What John Scully said about hypermedia and the Knowledge Navigator at the MacWorld Expo '88 keynote address.

The Bottom Line. Louise Kohl, *BMUG Newsletter*, Summer/Fall 1988: p.287-288.

Suggestion that Apple remember what makes the Mac better, rather than compete head to head.

Ulysses In The Valley. Victor E. Ovartriip, *BMUG Newsletter*, Summer/Fall 1988: p.286.

Review of, and reaction to, John Scully's book, *Odyssey*.

COMMENTARY — PARODY

At the Mac'n'Brew. Ted Jones, *BMUG Newsletter*, Fall/Win. 1987: p.265-267.

HyperCard jokes.

Auto Author: A New Era in Artificial Intelligence. Michael Pearce, *BMUG Newsletter*, Summer/Fall 1988: p.229-230.

A review of this program, designed to allow non-writers to create works given a designated genre, target market and topic.

Can Ya' Believe It?! C.J. Wiegand, *BMUG Newsletter*, Fall/Win. 1987: p.258-260.

Designer color cases and pyramid shaped disks.

Computers in Berkeley? Bits, Bytes and the BCA. Enrique Zambrano, *BMUG Newsletter*, Fall (Late) 1986: p.361-363.

How the Macintosh was Politically Correct in Berkeley in 1986. (Yes, he was **that** Zambrando)

Dialog Boxes You'll Never See on the Macintosh. Dan Wood and Ted Cohn, *BMUG Newsletter*, Fall 1985: p.12-15.

Incredibly funny dialog boxes. Classic Macintosh humor.

Fun Desk Accessories. David Dunham, *BMUG Newsletter*, Spr./Sum. 1987: p.269-271.

Parody of desk accessories, covers *Desk-Mess, Mispeller* and *Creative Accountant*, among others.

Getting the most out of your trash can. Dan Wood, *BMUG Newsletter*, Fall 1985: p.158-161.

Herb Cain Punches John Dvoruk For Making Pass at Dear Abbey. Scott Kronick, *BMUG Newsletter*, Fall (Late) 1986: p.383-387.

Not particularly out-of-date. The John Dvoruk section is particularly funny.

Mac's Question. Ken Wait, *BMUG Newsletter*, Spr./Sum. 1987: p.272.

Absurdist discussion of the question mark which appears when booting a Mac without a System file.

MacSpeak: Or, How I Learned to Forget the English Language. Frank Kofsky (writing as FranKof), *BMUG Newsletter*, Win./Spr. 1989: p.274-276.

Parody of the tendency of Macintosh products to be named with a word with a "capital letter in midstream".

The Mouseketeer: A Sample Page. Mouseketeer, *BMUG Newsletter*, Fall 1985: p.202.

Sample page of a funny but apparently defunct publication.

Towards A Strategy for Macintosh Explosions. Glenn Harris, *BMUG Newsletter*, Fall (Late) 1986: p.27-28.

Suggestions for appropriate explosions.

What's Next? Lincoln Spector, *BMUG Newsletter*, Win./Spr. 1989: p.288-289.

Description of the demonstration of the NeBiSH computer, by Steve Yobs.

COMMENTARY — PERSONAL EXPERIENCE

Beginners and Hard Disk Drives. John McWilliams, *BMUG Newsletter*, Spr./Sum. 1987: p.65-68.

Somewhat dated as of spring, 1989.

Confessions of a Computerphobe. Jayne Buono, *BMUG Newsletter*, Win./Spr. 1989: p.245-250.

Funny, literate, interesting article about how it feels to fear computers (even the Mac), and how one woman overcame that to use her Mac. Should be required reading for those trying to teach computers to Computerphobes.

Confessions of a Desktop Publisher. Julie Richter, *BMUG Newsletter*, Fall/Win. 1987: p.223-232.

The pitfalls of DTP, and Mac use in general.

Diary of a MacNeophyte, or... How to be a Free Beta-test Site Without Even Trying. Glen Frendel, *BMUG Newsletter*, Fall (Late) 1986: p.371-378.

Hard experiences of one Mac user — a cautionary tale which will not be obsolete until all Apple Dealers, Software Publishers, Hardware Manufacturers and Retail Stores start respecting their customers. (Most likely when the sun gets cold...)

Experiences of a Disabled Mac User. Bob Dahl, *BMUG Newsletter*, Fall/Win. 1987: p.255.

His Mac helped an ex-programmer while recovering from major disability.

Fritz and the Mac, or, Notes on Single Parenting and the Macintosh. Ken Huie, *BMUG Newsletter*, Summer/Fall 1988: p.253-254.

Why and how to share a Mac with a kid.

Mac Mind-Meld. Conall O'Leary, *BMUG Newsletter*, Fall/Win. 1987: p.248-251.

A writer talks about his Mac experiences.

Mac Mind-Meld, Part Two: The Upgrade. Conall O'Leary, *BMUG Newsletter*, Summer/Fall 1988: p.257-259.

One person's experience.

Mom and the Authorized Apple Dealer: A bit of vitrolic polemic about the real world. Stephen Howard, *BMUG Newsletter*, Win./Spr. 1989: p.277-279.

How Stephen's Mom got messed around and ripped off by her local Apple dealer. A cautionary tale for us all. He urges all to call the Apple Customer Service if you are jerked around by an Apple dealer: the number is: 1 (800) 538-9696

One Short Year to Grizzled Veteran Status: Experience in Communicating by Modem. Houston Hodges, *BMUG Newsletter*, Spr./Sum. 1987: p.284-285.

About Presbynet, a Presbyterian BBS

Resumé Writer Into Successful Author. Yana Parker, *BMUG Newsletter*, Win./Spr. 1989: p.226.

How one resumé typist became an author using a Mac.

Tales of a Computer Widow. Pat Smith, *BMUG Newsletter*, Spr./Sum. 1987: p.277-278.

How a marriage survived owning only one Macintosh.

The Emotional Costs of Being a Mac Nerd. Joe Calderola, *BMUG Newsletter*, Win./Spr. 1989: p.256-257.

How "too much time on the Mac can easily exaggerate one's character flaws".

The Evolution of a Mac User. DJ Katague, *BMUG Newsletter*, Win./Spr. 1989: p.258-262.

What it's been like for a law-student and later lawyer to be a Mac user since 1986. Includes some excellent advice about buying software and hardware.

The Experiences of a Danish Mac User. Jakob Nielsen, *BMUG Newsletter*, Spr./Sum. 1987: p.286-289.

What it's like to be a Mac user in a non-English-speaking country.

The Life and Times of a Young Mac User. Mike Sugarbaker, *BMUG Newsletter*, Summer/Fall 1988: p.255-256.

Perspective from a person of 12.

The Perils of Religious Computing. David Morgenstern, *BMUG Newsletter*, Spr./Sum. 1987: p.279-283.

What happened when David tried to reconcile Jewish tradition and law with an attempt to create a Jewish "symbolic desktop", and a prayerbook.

COMMENTARY — PIRACY

"Just Say No" to Piracy. Scott Beamer, *BMUG Newsletter*, Fall (Late) 1986: p.369-370.

Satire on Nancy Regan and software pirates.

Nothing is Free but the Air. BMUG, *BMUG Newsletter*, Spring 1986: p.13.

Why people should pay for shareware and commercial programs.

Piracy and Rentals. Scott Beamer, *BMUG Newsletter*, Fall (Late) 1986: p.366-368.

Interesting insights into software piracy and rentals.

Rebuttal to "Software Piracy..." Article. Ted Jones, *BMUG Newsletter*, Fall/Win. 1987: p.237-238.

Why software price is no justification for piracy and why companies price their products the way they do.

Rentals. Scott Beamer, *BMUG Newsletter*, Spring 1986: p.14.

How software rental stores offer an alternative to buying without trying. MacStore is no longer listed by 800 directory assistance, MacRentals is listed in spring, 1989.

Software Piracy and Pricing Matters. Otto Maichón, *BMUG Newsletter*, Fall/Win. 1987: p.233-236.

Claim that users pirate software because it costs too much.

Some Views on Copy Protection. Carolyn Sagami, *BMUG Newsletter*, Summer/Fall 1988: p.274-276.

What is wrong with copy-protection.

COMMENTARY — STATE OF THE MAC

Save Our Macintosh. Dennis T. Chang and Mark James, *BMUG Newsletter*, Summer/Fall 1988: p.281-283.

Overview of the state of the market and suggestions for the future.

The PC Industry: Innovation or Reorgy. Luigi Palmetto, *BMUG Newsletter*, Win./Spr. 1989: p.251-255.

Discussion of the history of PCs and Macintoshes, and status of the Mac and Apple as of date.

Thoughts On The Interface. Aaron Perkins, *BMUG Newsletter*, Summer/Fall 1988: p.284-285.

Suggestion that the Mac interface be available to one and all, because it's too good to be limited.

COMPUTER BUSINESS

Consulting on a Shoestring. Carolyn Sagami, Fall/Win. 1987: p.71-73.

Advice from a consultant. Rates obsolete.

Copyright Law for Computer Users. Daniel Kegan Ph.D., J.D., *BMUG Newsletter*, Spr./Sum. 1987: p.291-292.

What you can and can't copyright. May be affected by recent suits, unresolved in Spring, 1989, and even more recent information about patents.

Entrepreneurial Endeavors: The Birth of a New MacIndustry. Enrique Zambrano, *BMUG Newsletter*, Spring 1986: p.11-12.

A project to create 25' keyboard cables for the Mac becomes a possible business.

How to Do Shrink-Wrap in Small Batches. Mark Thorson, *BMUG Newsletter*, Spr./Sum. 1987: p.217-218.

How to shrink wrap anything. Directed at small software producers.

Microcomputer Consulting. Audrey D. Cole, *BMUG Newsletter*, Fall (Late) 1986: p.341-342.

Useful advice for aspiring independent consultants. Somewhat dated (no networks) but still applicable.

The Element of Chance in Software Design. Tom Maremaa, *BMUG Newsletter*, Spring 1986: p.8-10.

Infinity Software finding the right people to create a tennis program, *Grand Slam*.

You Don't Need $250,000. Shep Tamler, *BMUG Newsletter*, Fall (Late) 1986: p.335-337.

How Imagine Software designed and published *SmartAlarms*.

CONNECTIVITY

Exporting SPSS Data into the Mac. Kenneth William Hirsch, *BMUG Newsletter*, Win./Spr. 1989: p.140-145.

How one professor managed to transfer *SPSS* data from a mainframe to the Mac. Somewhat out of date, as of Spring, 1989, due to new connectivity tools.

Mac-VAX Connectivity. Janet Perry, *BMUG Newsletter*, Win./Spr. 1989: p.272-273.

State of Mac-to-VAX connectivity as of the end of 1988.

MCS: MultiChannel Communications System. Paul S. Blood, *BMUG Newsletter*, Fall (Late) 1986: p.326-327.

A shareware utility to transfer files from Mac to Mac using modems and regular phone lines. Is it still useful?

Running a Main Frame Computer by Modem. Kenneth William Hirsch, *BMUG Newsletter*, Spring 1986: p.17-20.

How to connect with a Cyber mainframe using a Mac & a telecommunications program.

Running another computer's software on your Mac. BMUG, *BMUG Newsletter*, Spring 1985: p.35.

Emulators and co-processors as of 1985. Good cable information.

The Poor Man's Guide to Connectivity. Bernard Aboba, *BMUG Newsletter*, Summer/Fall 1988: p.128-130.

Covers Mac to DOS, Modem sharing and remote access to PC and Mac files.

Transferring Files Between Computers (A Tutorial). Reese Jones, *BMUG Newsletter*, Spring 1985: p.38-44.

How to use *MockTerminal* to transfer files between computers. Includes information on Radio Shack Model 100 Lap Computers (or NECs), the Apple II, CPM machines, MS-DOS machines, PDP-11s running RSX11, VAX VMS, and UNIX.

Two for the Lab: *MacADIOS* and *LabVIEW*. Paul F. Daley, *BMUG Newsletter*, Fall (Late) 1986: p.328-333.

Review of *MacADIOS*: a hardware/software Analog to Digital converter and *LabVIEW*: an virtual instrument workstation. Prices are obsolete, but I think they're still around.

CONNECTIVITY — APPLE IIe

Transferring Apple IIe ASCII Files. Gordon Firestein, *BMUG Newsletter*, Spring 1986: p.41-.

Transferring files using a cable, *VersaTerm* on the Mac and a BASIC program on the IIe.

CONNECTIVITY — DOS

A Day at the Races with MacCharlie. Vicken Khachadourian, *BMUG Newsletter*, Fall (Late) 1986: p.263-267.

Review of the *MacCharlie* — an MS-DOS box which hooked around the Mac.

Connectivity: IBM to Mac. Jana Bouc, *BMUG Newsletter*, Fall/Win. 1987: p.85-87.

Using null modems, telecommunications programs and *Graphic Link v1.5* to transfer data. Cheaper than specialized programs.

MACLINK-ing CP/M and MS-DOS (IBM) Documents into a Mac and Back. Kenneth William Hirsch, *BMUG Newsletter*, Fall (Late) 1986: p.310-312.

Using the *MacLink* program and a cable to transfer files. *MacLink Plus* is reviewed in the Win./Spr. 1989 issue.

MACLINK: IBM Data Transfer to Mac. Harry Critchfield, *BMUG Newsletter*, Fall (Late) 1986: p.313.

Using the *MacLink* program and a cable to transfer files. *MacLink Plus* is reviewed in the Win./Spr. 1989 issue

MacLink: or How Do We Talk to Each Other? Rick Lasky, *BMUG Newsletter*, Win./Spr. 1989: p.203-206.

Description of how to use *MacLink Plus* to transfer and translate files from the Mac to the PC and back.

Radio Shack Model 100 Portable Computer. Gordon Haig, *BMUG Newsletter*, Fall (Late) 1986: p.253-262.

Discussion of how to use a portable Radio Shack Model 100 and connect it to the Mac. Prices are obsolete, and some of the software may have been upgraded, but generally useful on the old fashioned ways of connecting any portable to the Mac.

Text-File Détente: IBM PC to Mac. Ken Huie, *BMUG Newsletter*, Spring 1986: p.39-.

How to move files using cable and telecommunications programs. There are now software/hardware solutions which deal with more complex transfers.

CONNECTIVITY — UNIX

Using macput and macget on UNIX. Edward Moy, *BMUG Newsletter*, Spring 1985: p.44.

Note on macput and macget.

Using MacTerminal with UNIX. Tom Chavez, *BMUG Newsletter*, Spring 1985: p.44.

Notes on how to upload and download from UNIX using *MacTerminal*.

DATABASES

What is a Database Program: What is one good for? Avi Rappoport, *BMUG Newsletter*, Fall/Win. 1987: p.67-70.

Covers the nature of databases, flat-filers, and Database Management Systems (DBMSs).

DATABASES — 1985

Helix 2.0. David L. Foster, *BMUG Newsletter*, Fall 1985: p.98-99.

Positive review of this program.

Microsoft File: A Review. Matt Williams, *BMUG Newsletter*, Fall 1985: p.93-95.

Positive review of this early Mac file manager.

DATABASES — 1986

BIG GUNS: *Double Helix* vs. *Omnis 3 Plus*. Rick Eisner, *BMUG Newsletter*, Fall (Late) 1986: p.343-345.

Short review of two of the original Macintosh databases. Less than relevant as of Spring, 1989, because there have been too many changes & new databases.

dBase Mac and dMac III. M. Joseph Schaller, *BMUG Newsletter*, Fall (Late) 1986: p.346-348.

Short review of a demo copy of *dMac III* and a beta copy of *dBase Mac*. No longer relevant as of Spring, 1989, because there have been too many changes & new databases.

Poor Tom: An Associational Database. Glenn Harris, *BMUG Newsletter*, Fall (Late) 1986: p.351-352.

Review of *Poor Tom*, a "prototype for a 'fuzzy set' database". Public domain. Still around?

Record Holder. David Morgenstern, *BMUG Newsletter*, Fall (Late) 1986: p.349-50.

Review of the *Record Holder* database (or is it a flat-filer?).

DATABASES — 1987

Don't Call it Silver Surfer. John Heckendorn, Linda Custer and Raines Cohen, *BMUG Newsletter*, Spr./Sum. 1987: p.133-139.

Review of pre-release version of *4th Dimension*. Information is still useful, as the current version in spring, 1989 is 1.06. This review doesn't mention the agonizing slowness and other limitations.

DATABASES — 1988

Creating Custom Applications with 4th Dimension. Fred Carr, *BMUG Newsletter*, Summer/Fall 1988: p.151-154.

Discussion of using the *HyperCard* card metaphor to design *4th Dimension* applications.

DATABASES — 1989

FoxBase+/Mac (Mini Review). Scott Beamer, *BMUG Newsletter*, Win./Spr. 1989: p.44.

Positive short review

Panorama: A Spreadsheet or What? Scott Beamer, *BMUG Newsletter*, Win./Spr. 1989: p.218.

Critical review by someone who likes the program.

DESKTOP PUBLISHING

A Printer's View of Desktop Publishing: An Interview with Jack Mooradian. Geoff Geiger, *BMUG Newsletter*, Win./Spr. 1989: p.283-287.

An interview with a well-known Graphic Arts instructor at Laney College, Oakland, CA. Perspective on the state of Desktop Publishing, with some specific advice for DTP'ers.

Be Your Own Best Design Resource. Lisa Osta, *BMUG Newsletter*, Summer/Fall 1988: p.231-233.

Very nice reference article, includes helpful tips from the correct keys to hold down to get smart quotes to standard Type Usage.

Beyond Pretty Pages: Planning and assembling a booklet. Ann Casamajor J.D., *BMUG Newsletter*, Fall (Late) 1986: p.11-13.

Information about creating Supreme Court briefs, probably still timely.

Design Resources. Lisa Osta, *BMUG Newsletter*, Summer/Fall 1988: p.234-236.

Listing of helpful journals, books and *HyperCard* stacks, with informational annotations.

MacWrite Documents to Full Paint: or, How to Make the Mini-Crawling Ants Work for You. Mary E. Little and Calno John Soule, *BMUG Newsletter*, Spr./Sum. 1987: p.190-194.

A cheap way to integrate text and graphics using *MacWrite* and *FullPaint*. Not useful for anything other than the smallest of projects.

The Desktop Publishing Advisor: a HyperCard Stack. Geoff Geiger, *BMUG Newsletter*, Summer/Fall 1988: p.57-.

Review of a HyperCard stack which helps you learn the basics of DTP. Says it has many advantages over a book, including demonstrations of such topics as kerning.

Tutorial: Silicon Press: Printing cards, labels, and leaflets, plus color. Barbara J. Chan, *BMUG Newsletter*, Fall (Late) 1986: p.16-20.

Designing and creating a mailing label and colored flyer in *Silicon Press*. No longer available (spring, 1989).

Ventura Publisher — For the Mac? Diana J. Wynne, *BMUG Newsletter*, Summer/Fall 1988: p.215-216.

How this DOS program compares to Mac DTP programs, in functionality and interface.

WYSIWAG: What You See Is What You Almost Get. Scott Beamer, *BMUG Newsletter*, Fall/Win. 1987: p.268-270.

Relationship between screen and printing sizes.

EDUCATION — GRADES & TESTS

BrainChild Grade. Jon Ranstrom, *BMUG Newsletter*, Spr./Sum. 1987: p.106-111.

Comprehensive review.

Making the Grades. Yvonne Karsten, *BMUG Newsletter*, Fall/Win. 1987: p.171-174.

Comparative review of *Grades v2.0*, *MicroGrade*, and *Brainchild Grade*.

Micrograde and the Joys of Teaching Undergraduate Classes. Jasper Rine, *BMUG Newsletter*, Fall (Late) 1986: p.98-100.

Complete review of *Micrograde* program. Is it still available?

MicroTest II Gets a C-. Yvonne Karsten, *BMUG Newsletter*, Fall/Win. 1987: p.157-159.

Critical review of a test creation program.

FLOPPY DISKS

Floppy Disk Brands Reviewed. BMUG, *BMUG Newsletter*, Spring 1985: p.22.

Startlingly bad ratings for Brand Name floppy disks. Improved since 1985.

FLOPPY DRIVES

External Floppy Drives. BMUG, *BMUG Newsletter*, Spring 1985: p.23.

Warnings and advisories about both Apple and Haba external drives, as of 1985.

FONTS

Creating your own Fonts. Fred A. Huxham, *BMUG Newsletter*, Spring 1985: p.94-102.

Basic tutorial on using *Font Editor* and other very simple tools. Superseded by programs like *Fontastic*.

Dingbat Character Encoding. Adobe Inc., *BMUG Newsletter*, Fall 1985: p.190.

The ASCII codes for Adobe's Dingbat font.

Font Editor Supplement. Mike May, *BMUG Newsletter*, Fall 1985: p.130-133.

Supplement to Fred Huxham's tutorial.

Fonts. Richard S. Palais, *BMUG Newsletter*, Fall (Late) 1986: p.145-150.

Explanation of the parts of fonts and all the terminology. Design concepts. Timeless.

Standard Character Encoding. Adobe Inc., *BMUG Newsletter*, Fall 1985: p.188.

Codes for all Adobe fonts except Symbol & Zapf Dingbats.

Symbol Character Encoding. Adobe Inc., *BMUG Newsletter*, Fall 1985: p.189.

How the Adobe Symbol font is encoded in ASCII

GAMES

Beyond Dark Castle: A Review. Ben Patterson, *BMUG Newsletter*, Win./Spr. 1989: p.180-181.

Describes some of the improvements in *Beyond Dark Castle*.

Breach: A futuristic tactical war game. Haywood N. Michols Jr., *BMUG Newsletter*, Fall/Win. 1987: p.183-186.

[Squad Leader on the Mac?]

CompuServe Update: Dungeons and Dragons On-Line. Linda Custer, *BMUG Newsletter*, Fall (Late) 1986: p.320-322.

How a game of Dungeons and Dragons was played on CompuServe

Gato & Fokker Triplane. John Heckendorn, *BMUG Newsletter*, Fall 1985: p.88-90.

Mac Vegas by Videx. Sam Roberts, *BMUG Newsletter*, Spring 1985: p.79-80.

Positive review.

MacCheckers and Reversi from Videx. Sam Roberts, *BMUG Newsletter*, Spring 1985: p.78-79.

N.F.L. Challenge. Rob Miller, *BMUG Newsletter*, Spr./Sum. 1987: p.102-104.

Positive review.

Sargon III. Lloyd Lim, *BMUG Newsletter*, Spring 1985: p.80-81.

Positive review of a chess-playing program.

Strategic Conquest Plus. Steven Fransen, *BMUG Newsletter*, Fall (Late) 1986: p.323-325.

Review of the game *Strategic Conquest Plus*, which includes a Two Player mode which works with two Macs, connected by cable or modem.

Trivia. Philip Suh, *BMUG Newsletter*, Fall 1985: p.96.

Game is just a board game which replaces the board with a Mac.

GRAPHICS

"Stacked bar" Graphs from Cricket Graph. Kenneth William Hirsch, *BMUG Newsletter*, Fall/Win. 1987: p.187-188.

Procedures for copying *CricketGraph* bar graphs into *SuperPaint*.

ComicWorks & GraphicWorks: Two Programs, One Review, Two Opinions. Dan Wood, *BMUG Newsletter*, Fall (Late) 1986: p.25-26.

GraphicWorks still available as of spring, 1989

CricketGraph & the Engineer. C.J. Weigand, *BMUG Newsletter*, Spr./Sum. 1987: p.175-176.

What *CricketGraph v.1.0* could and could not do.

High Speed Animation on the Mac: A Review of the Beck-Tech MacMovies Program. Philip J. Suh, *BMUG Newsletter*, Fall (Late) 1986: p.29-30.

Program not visible in Spring, 1989.

How 3D graphics is done on the Mac. Greg Simons, *BMUG Newsletter*, Fall (Late) 1986: p.31-34.

Probably still applies in Spring, 1989.

PosterMaker Plus & Laser FX. Randy Simon, *BMUG Newsletter*, Fall/Win. 1987: p.178-181.

Two programs to manipulate text for headlines & logos. *PosterMaker Plus v2.5* is very positively reviewed, *Laser FX v1.1* gets qualified approval.

Pushing the Limits. Bruce Lee, *BMUG Newsletter*, Summer/Fall 1988: p.212-214.

Tips for *MacDraft 1.2b.*

Yosemite Dream. Monte Gusewelle, *BMUG Newsletter*, Spr./Sum. 1987: p.172-173.

How to scan, edit and print a photo.

Zen and the Art of the Macintosh: A book for those without a motorcycle. Frank Patrick, *BMUG Newsletter*, Fall (Late) 1986: p.14-15.

Review of *Zen and the Art of the Macintosh.*

GRAPHICS — DRAW PROGRAMS

A Review of The Adobe Illustrator. Philip J. Suh, *BMUG Newsletter*, Spr./Sum. 1987: p.195-198.

Review of version 1.0, somewhat obsolete due to the release of *Illustrator '88.*

MACsimizing MacDraw. Dan Wood, *BMUG Newsletter*, Fall 1985: p.146-151.

Tips for *MacDraw*

GRAPHICS — FRACTALS

Designer Fractal™: Mathematics for the 21st Century. Peter Van Roy, *BMUG Newsletter*, Win./Spr. 1989: p.197-198.

A review of the whole *Designer Fractal* package, which includes *FactaSketch*.

FractaSketch Review. Francis Butler, *BMUG Newsletter*, Win./Spr. 1989: p.196-197.

Calls the program "fun and friendly."

GRAPHICS — PAINT PROGRAMS

Creating Custom Brush Shapes in MacPaint and Using the Resource Editor. Philip Suh, *BMUG Newsletter*, Spring 1985: p.91-93.

DeskPaint Review. A.C. Mishra, *BMUG Newsletter*, Summer/Fall 1988: p.207-208.

Some nice features, including TIFF import and scaling screen images. Works well on floppy-based systems.

Drawing In the Fast Lane With Canvas. A.C. Mishra, *BMUG Newsletter*, Summer/Fall 1988: p.209-211.

Feature-rich paint/draw/page layout program, recommended at date of publication.

LaserPaint Color II version 1.9 (Mini Review). Scott Beamer, *BMUG Newsletter*, Win./Spr. 1989: p.45.

Semi-positive short review.

MacPaint Keyboard Commands. Stuart Karlan, *BMUG Newsletter*, Spring 1985: p.105.

Listing of the key commands.

MacPaint Tricks. Ward Bell and Bill Atkinson, *BMUG Newsletter*, Spring 1985: p.82-91.

Notes for a talk Bill Atkinson gave to BMUG, about clever things you can do in *MacPaint*.

SuperPaint: Its Name is True: Paint and draw in one program. Dan Wood, *BMUG Newsletter*, Fall (Late) 1986: p.20-22.

Good suggestions for using *SuperPaint*, with examples. Program is available as of spring, 1989, and review is still relevant.

HARD DISKS

Building Your Own Hard Disk. Tim Standing, *BMUG Newsletter*, Fall (Late) 1986: p.274-287.

How to build your own SCSI hard disk in complete detail. Supplies and prices may have changed, but basics have not.

Hard Disk Drives with Removable Cartridges: A Cautionary Note. Paul H. Gusciora, *BMUG Newsletter*, Fall 1985: p.41-42.

In 1985, removable cartridges were 10 MB and came from Iomega, Micro-Design and Tecmar. Some of the problems have been solved...

Hard Disk Update. Reese M. Jones, *BMUG Newsletter*, Fall 1985: p.31-39.

Historical information about hard disks as of 1985, when "discount" meant $1000 for 10 Meg. Also early network information.

Hard Diskery in the Eighties and Trapping the Wandering DA (a Cautionary Tale). Kenneth William Hirsch, *BMUG Newsletter*, Fall/Win. 1987: p.253-254.

Why this user doesn't have a hard disk at date of publication.

Living with a Jasmine Direct Drive 80. Nick Kratz, *BMUG Newsletter*, Fall/Win. 1987: p.93-97.

Qualified praise for this drive. [Warning: all things at Jasmine have changed by Spring, 1989, and look likely to go on changing.]

Log of the Jasmine BackPac 40 Hard Disk Drive. Kenneth William Hirsch, *BMUG Newsletter*, Win./Spr. 1989: p.82-85.

One man's experience with Jasmine's BP40, from December 1987 - February 1988.

The (SLOW) Fast Jasmine DD-20. Matthew Prest, *BMUG Newsletter*, Win./Spr. 1989: p.580-81.

Description of problems with a Jasmine DD-20. [Warning: all things at Jasmine have changed by Spring, 1989, and look likely to go on changing.]

The Jasmine Direct Drive. Maurice Weitman, *BMUG Newsletter*, Spr./Sum. 1987: p.219-221.

Comparative review of the Jasmine DD20 as of the date of publication. Price and performance information is out-of-date as of Spring, 1989.

What to look for in a hard disk: Choosing a Macintosh Hard Drive and Hard Disk Reviews. BMUG, *BMUG Newsletter*, Spring 1985: p.30-34.

Obsolete information in 1989.

HARDWARE

Adjusting Your Mac. David W. Berry, *BMUG Newsletter*, Fall (Late) 1986: p.300-301.

How to adjust the Mac screen (on a Plus or earlier). Includes directions for opening the case.

Hardware Notes. Reese Jones, *BMUG Newsletter*, Fall 1985: p.25-30.

Raines says that this is one of the best articles on cables ever. Also includes info on surge protectors, fans, air travel with Macs, & floppy disks.

Using the Mac — Hardware. BMUG, *BMUG Newsletter*, Spring 1985: p.13.

Historical information about hardware.

HARDWARE ACCESSORIES

A Custom-Built Desk. Val Ness, *BMUG Newsletter*, Fall/Win. 1987: p.79-84.

Design of a good computer desk for a Plus/SE. Includes diagrams.

A Full Page with Network Specialties' High-Top External Monitor. Kenneth William Hirsch, *BMUG Newsletter*, Win./Spr. 1989: p.72-75.

All about a Xerox monitor on the Mac.

A Homebrew Uninterruptible Power Supply for the Macintosh. Jay Z. James, *BMUG Newsletter*, Fall 1985: p.71-74.

How the technically adept can make a UPS for $135 (1985 dollars).

Back It Up—A Look at the TDBK-20+. C.J. Weigand, *BMUG Newsletter*, Spr./Sum. 1987: p.214-216.

Discussion of the hardware and software of the TDBK-20+ tape backup unit.

External Floppy Drive on a Mac II. Chad Pennebaker, *BMUG Newsletter*, Win./Spr. 1989: p.67.

How to hook a Mac II to an external floppy drive, even though it's not officially sanctioned.

Imagewrite II Sheetfeeder. Paul B. Blood, *BMUG Newsletter*, Spr./Sum. 1987: p.225-226.

People still want Imagewriter sheetfeeders in Spring, 1989, this article will tell them what they can and can't do with one.

Locking your Macintosh. Cliff Stoll, *BMUG Newsletter*, Fall (Late) 1986: p.268.

Reviews the Apple security kit and a "Tosh" kit, which may or may not still be available.

Mac II: Turn it on by Telephone. Kim Wennerberg, *BMUG Newsletter*, Win./Spr. 1989: p.91.

Description of *TimeMACTIVATOR* and *MACTIVATOR v.2.0*, by the inventor.

Macenhancer: Printer Options for the Mac. Jana Bouc, *BMUG Newsletter*, Fall/Win. 1987: p.88-89.

A hardware/software connection to IBM compatible printers.

The Evil Fan: an Update on MacChimney. Thomas Swain, *BMUG Newsletter*, Spr./Sum. 1987: p.227-228.

Description of the MacChimney by the inventor

The Macintosh Extended Keyboard. Michael Scriven, *BMUG Newsletter*, Fall/Win. 1987: p.75-78.

Useful description and review of the Extended Keyboard, still relevant as of spring, 1989.

HARDWARE ACCESSORIES — CONNECTING

SCSI Diddling. Keith W. Parker, *BMUG Newsletter*, Spr./Sum. 1987: p.249-250.

Ways to use the SCSI port to connect to

I/O adapter cards, etc. Advice as of Spring, 1989: buy a modular machine.

SCSI Hacking. Michael Lamoureux, *BMUG Newsletter*, Fall (Late) 1986: p.294-299.

How to control the SCSI port for use as a general purpose I/O port. Uses include: 8 bit analog to digital converter chip, pen plotter controllers.

HARDWARE ACCESSORIES — HOMEMADE

A Second Internal Drive for Your Mac Plus. Gene Poncelet, *BMUG Newsletter*, Spr./Sum. 1987: p.245-248.

How to build, with photographs.

Cool Your Mac. Cy Felheimer, *BMUG Newsletter*, Spr./Sum. 1987: p.241-243.

How to build and install a fan with mounting for a Mac 512 or Plus.

Hush, Micah! Michael Lamoureux, *BMUG Newsletter*, Fall (Late) 1986: p.269-270.

How to create an on/off switch for a Micah hard drive

Keyboard Wrist Rest. Kenneth William Hirsch, *BMUG Newsletter*, Fall (Late) 1986: p.266-67.

How to make a keyboard wrist rest from "zip-sleeve" pipe insulation.

The Walking Mac. Joseph Schaller, *BMUG Newsletter*, Fall (Late) 1986: p.360.

Diagram of a Mac mounted on a dolly with a battery and converter for power.

HYPERCARD

Ain't No Icon High Enough. Joe Caldarola, *BMUG on HyperCard*, 1988: p.A.23-a.27.

All about making icons with the *IconMaker* stack.

HyperCard Hype Made Easier with HyperDA. A.C. Mishra, *BMUG Newsletter*, Summer/Fall 1988: p.71-73.

Review of *HyperDA*, which allows you to open a *HyperCard* stack as a DA, and browse through it, though ou cannot modify the stack in any way.

HyperCard in Chemistry. John Ralph, *BMUG Newsletter*, Summer/Fall 1988: p.65-67.

Two projects in *HyperCard*: a Spectral Database and a Scientific Reference System which imports downloaded text from CAS-Online.

HyperCard News Update. Raines Cohen, *BMUG Newsletter*, Fall/Win. 1987: p.270.

News about version 1.1, and *HyperDa*.

HyperCard Notes. Eric Alderman and Steve Michel, *BMUG on HyperCard*, 1988: p.A.41-A.51.

Excerpts from their column in MacWEEK, including coverage of *VideoWorks HyperCard Driver, ResCopy* and its creator (Steve Maller), XCMD Register, DTP Advisor, Storytelling Stacks such as Amanda Goodenough and *the Manhole*, arrays in HyperTalk, scripting, etc.

HyperCard vs Database Management Programs: a comparison. Avi Rappoport, *BMUG Newsletter*, Fall/Win. 1987: p.175-177.

The strengths and weaknesses of Database Management Systems vs. *HyperCard*.

HyperExpo '88: A Review. Ted Jones, *BMUG on HyperCard*, 1988: p.A.20-A.22.

Review of exibits and products at this show, including very high praise for *StackStarter*.

Making Special Icons in HyperCard, or, It's My Icon and I'll Cry if I Want To. Joe Caldarola, *BMUG Newsletter*, Summer/Fall 1988: p.68-70.

How to use *ICONstructor* and *ResCopy* to create your own icons in *HyperCard*.

Review of the Russian Stacks. George F. French, *BMUG on HyperCard*, 1988: p.A.34-A.35.

Genrally positive review of *Learn To Read Russian 1.1*, available from BMUG.

So What is this HyperCard™ Thing, Anyway. Raines Cohen, *BMUG Newsletter*, Fall/Win., 1987 1987: p.45-49.

Still useful introduction to *HyperCard*, but too optimistic about the future.

So What is this HyperCard™ Thing, Anyway? Raines Cohen, *BMUG on Hyper-*

Card, 1988: p.A.36-A.40.

The obligatory attempt to explain *HyperCard*. Better than most.

The State of the Stacks. Dan Shafer, *BMUG on HyperCard*, 1988: p.A.52-A.54.

Covers ethical and legal questions in using other people's code, and useful tools for scripting.

the Manhole... Stackware from Activision. Delmar Tompkins, *BMUG Newsletter*, Win./Spr. 1989: p.210-211.

Review of the *Manhole HyperCard* stack set, from a parent's point of view. According to them, 3-6 is the ideal age for repeated enjoyment.

HYPERCARD — SCRIPTING

Checking the Date. Joe Caldarola, *BMUG on HyperCard*, 1988: p.A.29-A.33.

HyperTalk scripts for checking validity of dates typed.

Printing Scrolling Fields. Joe Caldarola, *BMUG Newsletter*, Summer/Fall 1988: p.61-64.

How to print scrolling fields: a script to get all the information out instead of what's just on the screen.

TEXAS Tips and Tailoring. Gordon Haig, *BMUG on HyperCard*, 1988: p.A.17-A.19.

Information about a stack with XCMDs which lets you index text files, and search once you have indexed.

Writing your own External Commands. Dan Wood, *BMUG on HyperCard*, 1988: p.A.2-A.16.

Technical article on how to write XCMDs and XFCNs, with examples in *MPW Pascal*.

HYPERMEDIA

A Mac in the Hand is Worth.... Bob Markison, *BMUG Newsletter*, Spr./Sum. 1987: p.183-186.

About a project to teach hand anatomy and diagnosis and treatment of hand problems using hypermedia, BH (Before *HyperCard*).

Destination: Node. Michael Lyons, *BMUG Newsletter*, Win./Spr. 1989: p.168-173.

Information about *ArchiText*, which "lets you connect notes of text/graphic files using associative or heirarchical links". Shows an example of how it can be used, with lots of screen shots.

Factfinder™. Edward Kuczynski, *BMUG Newsletter*, Spring 1985: p.58.

Review of a *HyperCard*-like program, including an early use of the word "stack" for text data handling.

INFORMATION — ONLINE DATABASES

Dialog! Linda Custer, *BMUG Newsletter*, Spring 1986: p.24-26.

How to find information by using the databases on the DIALOG online system. DIALOG databases are available through Compuserve as well as directly. Price information is obsolete as of Spring, 1989.

The MELVYL™ on-line catalog: a review. Mitch Turitz, *BMUG Newsletter*, Fall 1985: p.175.

About the University of California system-wide library catalog, and how to access it.

INTERNATIONAL MACINTOSH

Australia and the Macintosh. Ronald A. Schmidt, *BMUG Newsletter*, Fall (Late) 1986: p.364-365.

State of the Mac in Australia as of date of publication.

ChineseTalk: A Chinese Macintosh Operating System. Eng-Liang Ong, *BMUG Newsletter*, Fall/Win. 1987: p.143-149.

A description of this operating system, which replaces the System/Finder with a Chinese version.

EgWord: Japanese Word Processor. Paul Swingle, *BMUG Newsletter*, Fall (Late) 1986: p.128-131.

Positive review of this version of the progam. As of Spring, 1989, the new version needed at least 2MB of RAM to work.

***FeiMa*: Chinese Language Processor.** Barbara J. Chan, *BMUG Newsletter*, Fall (Late) 1986: p.169-173.

Interesing review, see *MacUser*, May, 1989 for more recent information.

The Macintosh In Japan. Setsuko Abe, *BMUG Newsletter*, Fall/Win. 1987: p.261-264.

History of Mac in Japan, from one of the founders of JMUG.

The Norwegian Experience. Paul B. Blood, *BMUG Newsletter*, Fall/Win. 1987: p.256-258.

Notes about Mac User Group activity and costs in Norway, as well as things to know about travelling with a Mac.

KID'S SOFTWARE

Kid's Stuff, Part I. Fred Showker, *BMUG Newsletter*, Spr./Sum. 1987: p.54-58.

Coverage of children's software — the programs may be somewhat outdated, but this is rare information.

Kid's Stuff, Part II. Fred Showker, *BMUG Newsletter*, Spr./Sum. 1987: p.59-64.

Covers "games for children three to six years of age that will help teach a variety of skills." Programs may be somewhat dated, but this is rare information.

LASER PARLORS

Color Laser Parlors (Mini Review). Scott Beamer, *BMUG Newsletter*, Win./Spr. 1989: p.46.

State of the color laser parlors as of date. Prices should move steadily downwards (we hope)

Look What You Can Rent at a Laser Parlor. Scott Beamer, *BMUG Newsletter*, Spr./Sum. 1987: p.169-171.

What you could expect to see at a laser parlor in 1987. Not that much has changed.

MACINTOSH APPLICATIONS

Labels For the Rest Of Us. John T. Scott, *BMUG Newsletter*, Spr./Sum. 1987: p.187-189.

How to use screen shots and *MacPaint* to label your disks with their contents.

Making Printed Circuit Boads on a Macintosh. Bryan McDonald, *BMUG Newsletter*, Fall (Late) 1986: p.288-293.

How to create the layout of a printed circuit board on your mac, and, in addition, how to make the board itself.

Microprocessor Development on the Mac. Bernard Aboba, *BMUG Newsletter*, Spr./Sum. 1987: p.266-268.

All about microprocessor development.

Use a No. 2 Pencil, Please! Jim Ereaux, *BMUG Newsletter*, Summer/Fall 1988: p.143-148.

How to use a card scanner to read in bubble forms.

Using the Mac in an Epidemiological Study. Dennis Black and Cary Fox, *BMUG Newsletter*, Spr./Sum. 1987: p.112-114.

How UCSF's Department of Epidemiology used *Omnis 3 Plus* to set up their study.

MACINTOSH CARE

Computer Condems? or, Safe Hex. Jay Hodgdon, *BMUG Newsletter*, Win./Spr. 1989: p.236-238.

Good article on the virus problem, but things have already changed, as of spring, 1989.

The Best Defense: Computer Maintenance. Daniel Kegan, *BMUG Newsletter*, Fall/Win. 1987: p.61-66.

Information is still relevant and useful.

Tutorial: power line problems. John H. Foster, *BMUG Newsletter*, Spr./Sum. 1987: p.199-213.

All about power problems and solutions. Includes instructions for building surge suppressors and UPSs (uninterruptible power supplies)

MACINTOSH CARE — HARD DISKS

Crash. Larry Pacilio, *BMUG Newsletter*, Win./Spr. 1989: p.187-191.

A friendly explanation of hard disk care. Negative review of *Fastback*, positive reviews of *DiskToolsII Plus, DiskExpress, and SCSI Tools.*

File and Disk Recovery for Just About Anyone: A Beginner's Guide. Steve Costa, *BMUG Newsletter*, Fall (Late) 1986: p.57-64.

Products are outdated, general information still interesting.

The Raising of the Dead, Part II. Steve Costa, *BMUG Newsletter*, Summer/Fall 1988: p.181-192.

A clear and helpful discussion of What To Do When The Worst Happens. Includes discussion of *Symantec Utilities for the Macintosh, CopyIIMac* and *1st Aid*. Also has a list of Error codes and meanings.

MACINTOSH CUSTOMIZING — 1985

A two byte Macintosh program, or, How to move the reset button from the side of you Mac to the keyboard. Fred A. Huxham, *BMUG Newsletter*, Fall 1985: p.124-127.

Customized MacDraw Menu equivalents on BMUG disk #20. BMUG, *BMUG Newsletter*, Fall 1985: p.192.

Menus with key-equivalents for Apple *MacDraw*.

Removing help file from MacPaint. Linda Custer, *BMUG Newsletter*, Fall 1985: p.128-129.

Make *MacPaint* smaller by removing the help files.

MACINTOSH CUSTOMIZING — 1986

Editing your DSAT. Christian Wiedmann, *BMUG Newsletter*, Fall (Late) 1986: p.73-74.

Using *ResEdit* to change the "Welcome to Macintosh" message, and replace the icon in the startup box. Lots of Hex.

ResEdit: Hacking for the Rest of Us. Christian Wiedmann, *BMUG Newsletter*, Fall (Late) 1986: p.75-.

Decent introduction to *ResEdit*. BMUG disks numbers may have changed.

Tips for Hard Disk Users. DAn Callaway, *BMUG Newsletter*, Fall (Late) 1986: p.271-273.

Obsolete information about hard disks, with some tips on customizing your DeskTop with *ResEdit*.

MACINTOSH CUSTOMIZING — 1987

Marking the System/Finder with ResEdit. Houston Hodges, *BMUG Newsletter*, Spr./Sum. 1987: p.75-76.

How to mark the trashcan with the Finder number and the watch cursor with the System number. This was useful back when there were incompatibilities everywhere, but things seem to be stabilizing (knock on wood...)

Personalizing Your Mac. Yvonne Karsten, *BMUG Newsletter*, Fall/Win. 1987: p.59-60.

Using shareware/PD programs to customize sounds, startup screens, etc.

MACINTOSH CUSTOMIZING — 1989

Customizing MacDraw and MacWrite. James D. Thursby, *BMUG Newsletter*, Win./Spr. 1989: p.133-136.

How to add key-equivalents to programs using *ResEdit*. Includes LOTS of pictures.

MACINTOSH INFORMATION — 1985

A Dozen Basic Things Every Mac User Should Know. BMUG, *BMUG Newsletter*, Fall 1985: p.200.

Important stuff like how to lock a floppy disk.

Mac Keyboard Commands. Stuart Karlan, *BMUG Newsletter*, Spring 1985: p.104.

Key commands table

Macintosh Error Codes. Apple Computer, *BMUG Newsletter*, Spring 1985: p.106-107.

Listing of error codes, from 1985.

Macintosh Error Codes. BMUG, *BMUG Newsletter*, Fall 1985: p.198.

Annotated list of error codes.

New & Future Products of Note. Reese M. Jones, *BMUG Newsletter*, Fall 1985: p.19-24.

Products as of 1985 (Imagewriter II, Apple HD20, etc.) and future products: TOPS, Laser/Video Disk Interface, Multi-Tasking, Object-Oriented Programming. (some things never change...)

Notes from the Developer's Conference at the MacWorld Expo. Rick Eisner, *BMUG Newsletter*, Spring 1985: p.6-7.

Interesting perspective for viewing the '89 Developers Conference. For instance, Apple is reported to have said "ROM will not be expanded" in size (this was before the Plus).

Types & Creators. Tom Chavez, Raines Cohen, Ron Schmidt and Dan Wood, *BMUG Newsletter*, Fall 1985: p.199.

About 75 codes, and which application made them.

Using Hard Disks with Protected Software. Reese Jones, *BMUG Newsletter*, Spring 1985: p.24-29.

Strategies for copying copy-protected software from before *CopyIIMac*, and before most software was unprotected.

MACINTOSH INFORMATION — 1986

A Beginner's Primer. Christian Wiedmann, *BMUG Newsletter*, Spring 1986: p.6-7.

Beginner's information, still reasonably useful in Spring, 1989.

Little Bo Peep Lost Her Sheep, Her Files and Folders Too!: When a Plus Becomes a Minus. Aaron Partridge, *BMUG Newsletter*, Spring 1986: p.15.

Solving problems caused by multiple versions of System files.

Using *Font/DA Mover*. Stephen Howard, *BMUG Newsletter*, Fall (Late) 1986: p.70-27.

Slightly dated (as of Spring, 1989), but well-written explanation of How To Use The *Font/DA Mover*. Includes all the Clever Tricks one always forgets.

MACINTOSH INFORMATION — 1987

A Test of Self-Test and Expanded RAM. Kenneth William Hirsch and Arnold M. Golub, *BMUG Newsletter*, Fall/Win. 1987: p.134-136.

Why adding RAM won't speed up applications, with facts and figures to prove it.

MACINTOSH INFORMATION — 1987

Care and Feeding of the Common Hard Disk. Linda Custer, *BMUG Newsletter*, Spr./Sum. 1987: p.41-53.

All about hard disks and systems and programs... as of the date of publication

Newsletter Glossary. Stephen Howard and Raines Cohen, *BMUG Newsletter*, Spr./Sum. 1987: p.7-12.

Clear explanation of Macintosh and computing terms. Includes a suggested pronunciation of each term, in no known pronunciation system.

Six Months with a Mac II. Scott Beamer, *BMUG Newsletter*, Fall/Win. 1987: p.104-106.

Dated info. from an early Mac II user.

MACINTOSH INFORMATION — 1988

Memory and Speed. C.J. Weigand, *BMUG Newsletter*, Summer/Fall 1988: p.155-157.

Dated discussion.

Newsletter Glossary 2.0. Stephen Howard and TeamBMUG, *BMUG Newsletter*, Summer/Fall 1988: p.39-53.

Explains the meanings of Mac-related words and acronyms, for example: ASCII, desktop, modem, RAM, serif, vaporware and zoom box.

Trends. Betty Violette, *BMUG Newsletter*, Summer/Fall 1988: p.277-278.

About upgrading memory.

MACINTOSH INFORMATION — 1989

INITs, DAs, & CDEVs: A Beginners Guide. Mark Smith, *BMUG Newsletter*, Win./Spr. 1989: p.182-183.

Useful basic information

Minimal Mac-ing: Prospering without a Hard Disk. Stephen Gangé, *BMUG Newsletter*, Winter/Spr. 1989: p.94-98.

How to set up your system without a hard disk.

Newsletter Glossary 2.0. Stephen Howard and TeamBMUG, *BMUG Newsletter*, Win./Spr. 1989: p.323-336.

Explains meanings of Mac-related words and acronyms, for example: ASCII, desktop, modem, RAM, serif, vaporware and zoom box. (Seems to be reprinted from the Summer/Fall 1988 issue)

Some common Mac questions. Stephen Howard, *BMUG Newsletter*, Win./Spr. 1989: p.61-64.

Answers to many general Macintosh questions. Describes all Macs through the IIx (doesn't include the SE30 or the IIcx). Covers basic ground that shouldn't change for a while.

System 6.0 Exposé: The Amazing Truth About all Those Icons. Doctor Poj, *BMUG Newsletter*, Win./Spr. 1989: p.47-58.

History and analysis of System 6.0 to 6.02, including The Mysterious Installer. Includes a table of all Mac System Software released up to 6.02, and an explanation of *every* file on the 6.02 system release disks, including CloseView (the Init from Hell).

What the Well Dressed System is Wearing. George M. Engel, *BMUG Newsletter*, Win./Spr. 1989: p.239-241.

Opinionated discussion of DAs, CDEVs and INITs as of the date.

MACINTOSH INFORMATION — BOOKS

A Macintosh Bibliography. Regina S. Litman, *BMUG Newsletter*, Summer/Fall 1988: p.297-309.

Almost complete bibliography of Macintosh books on all topics, as of about June, 1988. Sorted by title.

MacBIB. Regina S. Litman, *BMUG Newsletter*, Win./Spr. 1989: p.293-322.

Almost complete bibliography of Macintosh books on all topics (HyperCard to programming), as of the end of1988. List on p. 294-308 is sorted into categories, that on p.310-322 is sorted by title. Updated since Summer/Fall issue.

Macintosh Books For the Absolute Idiot. Mike McIlwrath, *BMUG Newsletter*, Fall 1985: p.100-102.

Annotated book reviews as of 1985.

Some News from the World. Raines Cohen, *BMUG Newsletter*, Spring 1985: p.5-6.

Interesting articles from 1985.

MACINTOSH INFORMATION — GETTING HELP

A Beginner's Guide to Getting Help. Mark R. Chandler, *BMUG Newsletter*, Fall (Late) 1986: p.382.

Advice on what to do when you have a problem, including a checklist of important information you should note before calling for help from BMUG or the software publisher. Do a favor for the tech support person — read this article.

MACINTOSH INFORMATION — MAC XL

Set•Up. James Callan, *BMUG Newsletter*, Win./Spr. 1989: p.227-228.

Personal setup for a Mac XL (also known as a Lisa). Very opinionated.

MACINTOSH INFORMATION — TRAVELLING

The Export Alternative: When You Can't Take It With You. Gordie Sands, *BMUG Newsletter*, Win./Spr. 1989: p.263-265.

How to take your Mac out of the country, including "exporting" — what you need to do to leave equipment overseas.

MACINTOSH UNDERGROUND

Another Visit Underground. Chris Halaska, *BMUG Newsletter*, Spr./Sum. 1987: p.262-265.

The Mac Underground: What's there for me? Chris Halaska, *BMUG Newsletter*, Fall (Late) 1986: p.314-322.

Description of the "Mac Underground", which was an information resource for Mac Users. It had an online magazine, and a "microfilm reader", which was later converted to *HyperCard*. Past tense because I haven't heard a thing about it lately.

MODEMS

2400 Baud Modems. Timothy Standing, *BMUG Newsletter*, Fall (Late) 1986: p.322.

Personal experience with a Robotics Courier modem. Others now available.

Modem Telephone Connector. Richard P. Abrams, *BMUG Newsletter*, Win./Spr. 1989: p.117.

What to do if you don't have a modular connection for your telephone.

MOUSE ALTERNATIVES

Felix — Ideal Pointer for Mac Laptop? Tom Feledy, *BMUG Newsletter*, Win./Spr. 1989: p.68-69.

Description of this graphics tablet, and why it would work well with the much-awaited Mac laptop computer.

Koala KAT-ing Around the Classroom. Kenneth William Hirsch, *BMUG Newsletter*, Fall (Late) 1986: p.96-97.

Clear review, but the product is not in evidence, in spring, 1989.

The Mouse Alternative. Paul B. Blood, *BMUG Newsletter*, Win./Spr. 1989: p.92-93.

Review of *quadLYNX, Turbo Mouse* and *ProPoint*, trackball input devices.

MULTIMEDIA

Easy 35mm Slide Production with a Mac. Brent Fultz, *BMUG Newsletter*, Fall 1985: p.109-110.

Low-tech way to get slides, printing images and then photographing them.

Making Color Photographs With The Mac. Carter Compton Collins, *BMUG Newsletter*, Fall 1985: p.106-108.

Use the Imagewriter color ribbon.

NETWORKS

AppleTalk for the rest of us. Reese Jones, *BMUG Newsletter*, Fall 1985: p.75-82.

All about BMUGNET (which is now PhoneNet and marketed by Farallon), by the inventor. This is an alternative to AppleTalk for the connecting hardware. Also explains AppleTalk and circuit design for the BMUGNET connectors.

AppleTalk Networking. Michael Rogers, *BMUG Newsletter*, Fall (Late) 1986: p.303-309.

All about networking as of the end of 1986. This field moves very quickly, so this is mostly obsolete.

Deeper Inside AppleTalk. Hal Adkins, *BMUG Newsletter*, Fall 1985: p.82-83.

What's wrong with the AppleTalk hardware and why the twisted pair alternative is better.

Installing a PhoneNET Network. Reese Jones, *BMUG Newsletter*, Spring 1986: p.43-54.

All about PhoneNet in 1986.

Network Primer: A general introduction on networking Ethernet and AppleTalk. Elizabet McGee and Janet Perry, *BMUG Newsletter*, Summer/Fall 1988: p.135-139.

Very useful information about networks, from people who work at Kinetics.

Networking Connectivity Buzzwords. Kee Nethery, *BMUG Newsletter*, Summer/Fall 1988: p.131-134.

Clear explanation of the basics of networks, from a Farallon person. Worth reading, not obsolete in Spring, 1989.

Serve Yourself a Network. Nick Kratz, *BMUG Newsletter*, Summer/Fall 1988: p.217-218.

Very positive review of *The Well-Connected Macintosh*, by Tony Bove and Cheryl Rhodes.

OPTICAL CHARACTER RECOGNITION

One On One with OCRs: A Primer on Using Them. Scott Beamer, *BMUG Newsletter*, Win./Spr. 1989: p.165-167.

General information about when and how to use OCRs to input text.

The Economics of OCRs. Scott Beamer, *BMUG Newsletter*, Fall/Win. 1987: p.90-92.

State of OCR as of date of publication.

Typed Pages to Mac Files for 25¢ a Page? Scott Beamer, *BMUG Newsletter*, Spr./Sum. 1987: p.125-130.

The state of OCRs as of the date of publication. No longer very useful, as so much has changed by spring, 1989.

Typewritten pages to Mac Files: Optical Character Readers "For The Rest Of Us". Scott Beamer, *BMUG Newsletter*, Fall 1985: p.43-45.

The voice of restraint and reason in a hyped-up market. Things have changed for the better, but this is an example of why not to believe the marketing.

POSTSCRIPT

A Preview of Cricket Draw: Producing modifiable PostScript files directly. Dan Wood, *BMUG Newsletter*, Fall (Late) 1986: p.23-24.

Program still available as of spring, 1989.

Adventures with PostScript. Luehrmann, *BMUG Newsletter*, Fall (Late) 1986: p.45-55.

Graphic examples of PostScript.

Programming in PostScript. Denis G. Pelli, *BMUG Newsletter*, Fall (Late) 1986: p.35-44.

Products are dated, PostScript information is not. Worth reading

Turtle Graphics in PostScript™. Bill Woodruff, *BMUG Newsletter*, Win./Spr. 1989: p.149-161.

How to do LOGO-type turtle graphics using PostScript. Includes listings.

PRINTERS

Connecting Apple Printers. I.I. Butler, *BMUG Newsletter*, Fall/Win. 1987: p.110-126.

Connecting Apple LaserWriters and ImageWriters to other computers.

H.P. Ink Jet Printers and the Mac, The Grand Finale. Kenneth Willaim Hirsch, *BMUG Newsletter*, Win./Spr. 1989: p.103-108.

Summary of the author's research on HP ink jet printers working with the Mac. He concludes that "life is too short to fiddle around any more with non-Apple printers", as of date of article. The situtation is already better, in June of 1989, and when *System 7.0* is finally released sometime next year, should be basically solved.

How to Use Diablo Formed Character ("Daisy Wheel") Letter Quality Printers. Kenneth William Hirsch, *BMUG Newsletter*, Winter/Spr. 1989: p.86-90.

Describes cable and switch settings for hooking Diablo Daisy Wheel printers to Macs, as well as operations information.

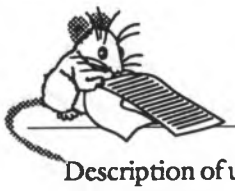
Imagewriter II Preview. Raines Cohen, *BMUG Newsletter*, Fall 1985: p.40.

Cautiously positive review, as of date of publication.

Okidata 92 Imagewriter Compatible Printer. Gary Feder, *BMUG Newsletter*, Spring 1985: p.48.

Favorable review.

Re-Visiting the Hewlett Packard Thinkjet and Quietjet Printers. Kenneth William Hirsch, *BMUG Newsletter*, Fall/Win. 1987: p.107-109.



Description of using Hewlett Packard ink jet printers with a Mac.

The Grappler LQ Printer Interface. Willy Liao, *BMUG Newsletter*, Win./Spr. 1989: p.76-79.

Complete coverage of the Grappler, a hardware/software interface between the Mac and non-Apple printers.

The ImageWriter and the Radio Shack Model 100/102. Jill Larkin and Phil Reese, *BMUG Newsletter*, Spr./Sum. 1987: p.230-232.

How to hook an ImageWriter to a Radio Shack portable DOS computer.

Using the Diablo 630 Printer with the Mac. Kenneth William Hirsch, *BMUG Newsletter*, Fall/Win. 1987: p.98-103.

Discusses how to connect and use a Diablo daisywheel printer.

Using the Hewlett Packard THINKJET and QUIETJET+ Printers. Kenneth William Hirsch, *BMUG Newsletter*, Fall (Late) 1986: p.236-238.

Description of using Hewlett Packard ink jet printers with a Mac.

Wrestling the Grappler to the Mat. Winfield Smith, *BMUG Newsletter*, Win./Spr. 1989: p.99-102.

Explanation of how to use the Grappler, which is a hardware/software interface between the Mac and non-Apple printers. Includes diagrams and helpful hints.

PRINTING

A Simple Color Printing System Using MacDraw™ and Rainbow Pak™ Colored Ribbons. David de la Vega, *BMUG Newsletter*, Spring 1985: p.49.

Color separations using the Imagewriter.

Linotronic L100 Tips. Ron Schmidt, *BMUG Newsletter*, Fall (Late) 1986: p.235.

Tips about dealing with limited RAM while printing on Linotronics — less important now that there is more RAM.

(Near) Letter Quality Printing on the Imagewriter. Edward Kuczynski, *BMUG Newsletter*, Spring 1985: p.48.

Basics of quality Imagewriter printing.

Practical Tips for LaserWriter Authors. Ronald A. Schmidt, *BMUG Newsletter*, Fall (Late) 1986: p.213-217.

Good basic information about the hidden rules to printing on a LaserWriter.

Superfonts and High Quality Printing on the ImageWriter. Mitch Turitz, *BMUG Newsletter*, Sum./Fall 1988: p.195-203.

Description of fonts from the ImageWriter perspective, and the shareware fonts Boston II, Palencia, Beverly Hills and Clairvaux.

Tips on the LaserWriter and Other PostScript Printers and Typesetters. Arthur Naiman, *BMUG Newsletter*, Fall (Late) 1986: p.218-.

All about LaserWriters, from placement to paper type to PostScript. The font and memory information may be somewhat out-of-date, as of Spring, 1989.

PROGRAMMING

[Sample Program]. David J. Burnard, Fred A. Huxham and James Y. Takatsuka, *BMUG Developers Group Newsletter*, Spring 1985: p.4.20-4.26.

Simple code in Pascal. Not written for *MultiFinder*.

[Sample Program]. David J. Burnard, Fred A. Huxham and James Y. Takatsuka, *BMUG Developers Group Newsletter*, Spring 1985: p.5.10-5.22.

Same program as above, with new events and TextEdit.

Advanced Windows & TextEdit. David J. Burnard, Fred A. Huxham and James Y. Takatsuka, *BMUG Developers Group Newsletter*, Spring 1985: p.5.1-5.9.

Information about Update Events, Activate/Deactivate events, etc. TextEdit also covered.

Bypassing the Trap Dispatcher for Fun and Profit. James E. Hopper, *BMUG Newsletter*, Fall (Late) 1986: p.88-92.

Clearly written explanation dealing with the TrapDispatcher, with listings included.

Creating Your Own Icon. Fred Huxham, *BMUG Newsletter*, Fall 1985: p.134-136.

How to use *ResEdit* to make your desktop icon. Don't forget that you should register it with Apple.

Dialog Box Primer: How to program dialog boxes on the Macintosh. Mike Ferris, *BMUG Newsletter*, Win./Spr. 1989: p.137-139.

Theory of how to program a Modal Dialog. Written in English rather than *Inside Macintosh*-ese. Does not include program listings.

Event Manager. David J. Burnard, Fred A. Huxham and James Y. Takatsuka, *BMUG Developers Group Newsletter*, Spring 1985: p.1.1-1.4.

Event loop information with GetNextEvent (before *MultiFinder*). Includes short code listing.

Interface Revealed. Linda Custer, *BMUG Newsletter*, Fall/Win. 1987: p.43-44.

Review of the book *Human Interface Guidelines: The Apple Desktop Interface.*

Introduction [to Macintosh programming]. David J. Burnard, Fred A. Huxham and James Y. Takatsuka, *BMUG Developers Group Newsletter*, Spring 1985: p.1-3.

Short intro to Mac programming.

Introduction to Resources. David J. Burnard, Fred A. Huxham and James Y. Takatsuka, *BMUG Developers Group Newsletter*, Spring 1985: p.6.1-6.5.

Menu Manager. David J. Burnard, Fred A. Huxham and James Y. Takatsuka, *BMUG Developers Group Newsletter*, Spring 1985: p.3.1-3.9.

Most of the basic information for dealing with menus. Includes short code listing.

Pascal Illustrated Fearlessly, Loathlessly: A Taste of Programming for Pascal Virgins. Scott Kronick, *BMUG Newsletter*, Fall 1985: p.115-119.

Useful information for the beginning programmer.

QuickDraw. David J. Burnard, Fred A. Huxham and James Y. Takatsuka, *BMUG Developers Group Newsletter*, Spring 1985: p.4.1-4.19.

Covers most of QuickDraw, but not in great detail.

System Resource Types. David J. Burnard, Fred A. Huxham and James Y. Takatsuka, *BMUG Developers Group Newsletter*, Spring 1985: p.6.6.

Listing of resource type codes and short explanation.

Tear-Off Menus. Mike Ferris, *BMUG Newsletter*, Sum./Fall 1988: p.158-180.

How to write code for Tear Off Menus, including discussion of MDEFs and WDEFs. 18 pages of code in *Lightspeed (THINK) Pascal.*

The Animator: A Simple Lightspeed Pascal Program. Linda Custer, *BMUG Newsletter*, Fall (Late) 1986: p.78-83.

Useful description of a simple program with a Macintosh user interface. The code for this program is NOT included — it was on the disk. *Lightspeed Pascal* has been improved with v. 2.0, fixing most of the problems and limits described (now known as *THINK Pascal*).

Trapping and Taming of the Elusive Resource. Mike Ferris, *BMUG Newsletter*, Fall/Win. 1987: p.127-133.

Introduction to resource management.

Window Manager. David J. Burnard, Fred A. Huxham and James Y. Takatsuka, *BMUG Developers Group Newsletter*, Spring 1985: p.2.1-2.9.

Simple window manipulation. Includes short code listing.

PROGRAMMING — ASSEMBLER

68000 Minus Fear, Loathing: A Primer for Using the Macintosh Development System. Scott Kronick, *BMUG Newsletter*, Fall 1985: p.120-123.

General Info, in Scott's unique style.

A Picture of Everything a Computer Knows. Scott Kronick, *BMUG Newsletter*, Fall (Late) 1986: p.65-72.

A little information about the Macintosh and assembly language, and some Mr. Moss silliness.

See Dick and Jane Grimace: First Lines of Assembly Code. Scott Kronick, *BMUG Newsletter*, Win./Spr. 1989: p.146-148.

Some basic information about Assembly, with code listing and Mr. Moss' silliness.

Up Bit Creek: Fear and Loathing with Science and the Macintosh. Scott Kronick, *BMUG Newsletter*, Spr./Sum. 1987: p.255-261.

Some assembler and Mac memory information and Mr. Moss silliness.

PROGRAMMING — LANGUAGES / COMPILERS

A Review of MacModula-2. Michael La Belle, *BMUG Newsletter*, Fall 1985: p.85-87.

Semi-positive review, from Modula Corp., as of date of publication.

FORTRAN on the Macintosh. Richard A. Muller, *BMUG Newsletter*, Spring 1985: p.65-66.

Very critical review of *MacFortran*. Things may have changed.

Mac Programming Languages. Linda Custer, *BMUG Newsletter*, Fall 1985: p.154-157.

General information about languages and their Mac implementation. Some compiler information.

Macintosh C Compilers. Fred A. Huxham, *BMUG Newsletter*, Spr. 1985: p.63-65.

Historical look at C languages (most of them are out of business).

Macintosh Pascals. Tom Chavez, *BMUG Newsletter*, Spr. 1985: p.67-69.

None of these Pascal compilers is available, as of Spring, 1989.

ZBasic: A Quick Review by a BASIC User. Ken Huie, *BMUG Newsletter*, Fall (Late) 1986: p.85-87.

A review of *ZBasic*, compared to *Microsoft Basic* (favorably). However, the conclusion is: "learn another language if you don't already know BASIC".

RELIGIOUS SOFTWARE

Here, Do It My Way: A Review of Medina Software's Bible Helps Material. Houston Hodges, *BMUG Newsletter*, Spr./Sum. 1987: p.97-98.

Labors of love are not enough — quality of these programs is low.

Lexegete Hits the Mark. Houston Hodges, *BMUG Newsletter*, Fall/Win. 1987: p.161-163.

Positive review of "lectionary study material for the rest of us."

MacHeaven on Earth: Caring for a Church by Macintosh. Houston Hodges, *BMUG Newsletter*, Fall/Win. 1987: p.165-169.

Templates for *FileMaker* data entry, searching/reports. Very positive review.

ThePerfectWORD—It Surpasseth All Others! Houston Hodges, *BMUG Newsletter*, Win./Spr. 1989: p.219-221.

Review of a "Bible study/research tool." various clever extensions for searching.

SCANNERS

The High Resolution Macintosh Scanners. Peter Korn, *BMUG Newsletter*, Spr./Sum. 1987: p.233-234.

The state of scanners as of date of publication. Things have changed a lot in two years...

SHAREWARE

Innovative free (and almost free) software for the Macintosh. Mitch Turitz, *BMUG Newsletter*, Win./Spr. 1989: p.174-179.

Short reviews of: *SuperClock!, Flex, Easy Envelopes+, F-Keys, SnapShot, Vaccine* and *Interferon (v.3.1)*. Anti-virus information is neccessarily dated.

Shareware and Public Domain Desk Accessories. Mitch Turitz, *BMUG Newsletter*, Fall/Win. 1987: p.53-57.

DAs are mostly still useful in 1989.

SOFTWARE REVIEWS

a'Readin', a'Writin', a'PowerMath. C.J. Weigand, *BMUG Newsletter*, Spr./Sum. 1987: p.99-101.

Review of an older equation-solver, which may no longer be available as of spring, 1989.

Church Business Manager: Big, Fast and Thorough. Houston Hodges, *BMUG Newsletter*, Spr./Sum. 1987: p.115-117.

Positive review.

Flowcharting with MacFlow 2.02. Peter G. Wyman, *BMUG Newsletter*, Summer/Fall 1988: p.204-206.

A *MacDraw*-like flowcharting program, still available as of spring, 1989.

MacLord Property Management: A Turnkey Application Review. Martin Hauser and Wave Korpi, *BMUG Newsletter*, Win./Spr. 1989: p.207-209.

Review of *MacLord*, which is a rental property management program. Criticism of the documentation, qualified praise for the program.

Managing A Research Bibliography: Using Microsoft File and Microsoft Word. Linda Custer, *BMUG Newsletter*, Fall 1985: p.104-105.

How to force a file manager and word processor to create bibliographic references.

Mathematica: a step forward. Bernt Wahl, *BMUG Newsletter*, Win./Spr. 1989: p.212-215.

A review and examples of how to use *Mathematica* to solve math problems.

Mind Prober / Communication Edge. Storm Jenkins, *BMUG Newsletter*, Fall 1985: p.95.

Negative review of programs designed to explain personalities from answers to questions.

Mini Reviews. Scott Beamer, *BMUG Newsletter*, Fall/Win. 1987: p.182.

Covers *Crystal Quest* and *Colorizer*, concentrating on Mac II compatibility.

Mini Reviews. Scott Beamer, *BMUG Newsletter*, Spr./Sum. 1987: p.31-36.

Covers several books, and *Findswell, QuickDex, WriteNow 1.1, Thunder!, Spellswell,* and *Spelling Coach*.

Mini Reviews: Why Don't They... Hey, Wait — They just did! Scott Beamer, *BMUG Newsletter*, Fall (Late) 1986: p.107.

MacInUse, *MacInTax*, *MacZap 4.3* & *Lifeboat*: the versions reviewed were obsolete as of Spring, 1989.

Mouse Musings. C.J. Weigand, *BMUG Newsletter*, Spr./Sum. 1987: p.293-296.

Reviews of: *MacSafe* (security software), *The LaserSampler II* (book with laser font samples), *PictureBase* (clip art management software), *DataPak* disk boxes, and *WorksXchange* (template exchange from Heizer Software).

Optics Lab. Joh Ranstrom, *BMUG Newsletter*, Win./Spr. 1989: p.216-217.

Negative review of *Optics Lab 1.0*

Plotting with the Macintosh. Bernard Aboba, *BMUG Newsletter*, Spr./Sum. 1987: p.237-239.

Software and hardware for using plotters. Covers *Plot-it* and *MacPlot*. Status?

The Springboard to Computing Power... Typing Intrigue. Pamela Barber and Stephen H. Paul, *BMUG Newsletter*, Fall/Win. 1987: p.150-151.

Positive review of this typing tutor program.

Tribulations with Typing Tutor IV. William H. Sutherland, *BMUG Newsletter*, Win./Spr. 1989: p.233-235.

Describes problems with this program, especially in version 1.0. Version 1.2 is better.

Voulez-vous or Vouler-vous? Le Conjuguer: A Desk Accessory that Conjugates French Verbs. Kelley Wicks, *BMUG Newsletter*, Fall 1985: p.103.

Positive review. Status?

Working with *Working with Works* Works. John Heckendorn, *BMUG Newsletter*, Spring/Sum. 1987: p.78-80.

Positive review of the book *Working with Works* about working with MS *Works*.

SOUND

A History of Digitized Sound on the Mac. John F. Williams, *BMUG Newsletter*, Summer/Fall 1988: p.260-262.

Overview of the state of Mac sound software & hardware, at date of publication.

MacRecorder II: An improved voice digitizer for the Macintosh. Michael Lamoureux, *BMUG Newsletter*, Fall 1985: p.58-60.

Technical notes about the improved MacRecorder, by the designer.

MacRecorder: A Speech Digitizer for the Macintosh. Ty Shipman, *BMUG Newsletter*, Fall 1985: p.51-57.

About BMUG's kit for the original MacRecorder. Lots of circuit diagrams and complex lists. (MacRecorder is now marketed by Farallon)

Smooth Talker. Kelley Wicks, *BMUG Newsletter*, Spring 1985: p.77-78.

Review of a speech synthesis program.

The MacRecorder Software. Michael Lamoureux, *BMUG Newsletter*, Fall 1985: p.61-65.

Explanation of the software, and listing in MacForth.

SPREADSHEETS

A Review of the Excellent Exchange. Don Scellato, *BMUG Newsletter*, Fall (Late) 1986: p.338-340.

A description of Heizer Software's **Excellent Exchange**, rather than a critical review.

Combining EXCEL and Schedule C: To Simplify Your Tax Return. James A. Sugar, *BMUG Newsletter*, Win./Spr. 1989: p.184-186.

Schedule C is for business expenses — this is a way to re-create it in *Excel*.

Full Impact (Mini Review). Scott Beamer, *BMUG Newsletter*, Win./Spr. 1989: p.44.

Positive short review

Loan Payment Spreadsheets: Amortization Calculations. Kee Nethery, *BMUG Newsletter*, Fall 1985: p.111-112.

How to set up your spreadsheet to calculate these figures. Still applicable in 1989.

STATISTICAL SOFTWARE

Macintosh Statistics Software. Michael La Belle and Melissa Austin, *BMUG Newsletter*, Fall (Late) 1986: p.353-359.

Full comparative review of *StatView 512+*, *NCSS*, *WormStat*, *MacSpin*, *CLR ANOVA*, and *DataDesk*. Includes a large table of the various attributes of a statistics program. Programs and prices out-of-date, but the analysis is still useful.

Microsoft Chart. Raines Cohen, *BMUG Newsletter*, Spring 1985: p.58-62.

Positive review of this program for graphs, charts, lines and simple data analysis.

TELECOMMUNICATIONS

Apple Develops Point and Click Telecommunications: A Review of AppleLink™. Ken Wait, *BMUG Newsletter*, Fall 1985: p.172-174.

Comparison between AppleLink and traditional, text-based, telecommunications systems. AppleLink is still not available to the general public, and it's too slow at 1200 baud.

Customizing MacTerminal. Larry Rosenstein, *BMUG Newsletter*, Spring 1985: p.74-75.

Using *FEdit* to customize *MacTerminal*.

Going "On-Line" for the First Time: A Beginner's Journal. Grace Kang, *BMUG Newsletter*, Fall 1985: p.167-171.

Notes on old software and systems.

MacTerminal 1.1. Allan Bonadio, *BMUG Newsletter*, Spring 1985: p.71-74.

Positive review, with tips/useful hints.

Telecommunications with your Mac. Rick Eisner, *BMUG Newsletter*, Spring 1985: p.7-9.

General information as of date, notes on CompuServe and Delphi.

The Red Ryder 4.0 Terminal Emulation Program. BMUG, *BMUG Newsletter*, Spring 1985: p.75-77.

All good things about *Red Ryder 4.0*. In Spring, 1989, the current version is 10.x.

The WELL: Whole Earth 'Lectronic Link. Timothy M. Brace, *BMUG Newsletter*, Spring 1986: p.28-29.

Description of the features of the WELL.

UW: Unix Windows. Peter Korn, *BMUG Newsletter*, Spring 1986: p.23.

Review of *UW*, a terminal program for Macs hooked up to 4.2 BSD Unix systems.

TELECOMMUNICATIONS — BBSs

A Guide to Bay Area Bulletin Boards. Bernard Aboba, *BMUG Newsletter*, Fall/Win. 1987: p.193-197.

Notes on BBS information as of the date, with some phone numbers.

An Introduction to EchoMac. Bernard Aboba and Mike Borsetti, *BMUG Newsletter*, Summer/Fall 1988: p.77-89.

About the Macintosh conference on the world's first microcomputer electronic mail network, FIDOnet. Includes ground rules for using the network; the EchoMac NodeList (BBSs which participate) as of 4/1/88, sorted alphabetically and by area code and phone number; and a directory of all EchoMac users as of 3/8/88, alphabetically by last name.

Bay Area BBS Report. Greg Hulbert and Bernard Aboba, *BMUG Newsletter*, Win./Spr. 1989: p.111-114.

Lists BBSs in the Bay Area in alphabetical order. Dated 11/9/89. Includes phone number, location, and comments.

Getting the Most out of Your Modem: BSS's. Peter Korn, *BMUG Newsletter*, Spring 1986: p.36-37.

Basic information about using BBSs.

Macintosh BBS Listing. Dennis Runkle, *BMUG Newsletter*, Summer/Fall 1988: p.90-119.

Listing of Macintosh BBSs across the country, as of 5/2/88.

Macintosh Bulletin Board Systems: A Comparative Review. Raines Cohen, *BMUG Newsletter*, Spr. 1986: p.21-22.

Review of *Mouse Exchange* and *Red Ryder Host*, as of 1986.

Redialing the BMUG BBS. Linda Custer, *BMUG Newsletter*, Spring 1986: p.38.

How to reset your modem to redial quicker. Some things never change.

The Rise of the MegaBoards. Bernard Aboba, *BMUG Newsletter*, Win./Spr. 1989: p.115-117.

Information about very large BBSs, having "**ENORMOUS** Storage, **LOTS** of lines, and Mega-connectivity" [to the international networks]. Discusses the situation as of Winter, 1988, and the outlook for the future.

TELECOMMUNICATIONS — BMUG BBS

"Hello, this is the SYSOP...". Raines Cohen, *BMUG Newsletter*, Fall 1985: p.178.

Information for 1985.

Accessing he BMUG bulletin board: Using the *FreeTerm* Communications Program. Carl S. Di Giogio, *BMUG Newsletter*, Fall 1985: p.162-166.

Old information, not relevant any more.

BMUG Joins USENET. Bernard Aboba, *BMUG Newsletter*, Win./Spr. 1989: p.118-129.

About USENET on the BMUG BBS. Includes ground rules, mail information, and a sample BBS session, which **includes an example of how to send a USENET message on the BBS!** Also has listings of USENET conferences and FidoNet Conferences

Generating RedRyder Procedure Files to Read BMUG BBS Messages. Richard J. Paoli, *BMUG Newsletter*, Summer/Fall 1988: p.124-127.

How to use *Microsoft Word 3.01* or *HyperCard* to create a *RedRyder* procedure file to read only those messages which he has noted as interesting in his downloaded scan file.

Sample Logon Session for the new BMUG BBS. Phil Reese, *BMUG Newsletter*, Fall/Win. 1987: p.19-26.

Still relevant as of Spring, 1988.

The New Multiline BMUG Electronic Bulletin Board System. Phil Reese and Raines Cohen, *BMUG Newsletter*, Fall/Win. 1987: p.16-18.

Up and Down on the BMUG BBS. Phil Reese and Raines Cohen, *BMUG Newsletter*, Summer/Fall 1988: p.22-34.

Mostly applicable in Spring, 1989, though *StuffIt* is now the archiving utility of choice.

TELECOMMUNICATIONS — SCRIPTING

Sample Script for Automatic Redialing Using MicroPhone. Paul B. Blood, *BMUG Newsletter*, Fall/Win. 1987: p.198.

Does **not** work on *MicroPhone II.*

Write Your Own Script: A Comparison of MicroPhone and Red Ryder. Linda Custer, *BMUG Newsletter*, Spring 1986: p.32-35.

Comparison of scripting in older versions of these two programs.

TELECOMMUNICATIONS — SERVICES

CompuServe Update. Linda Custer, *BMUG Newsletter*, Fall 1985: p.176-177.

Old information, but not all obsolete.

CompuServe Update. Linda Custer, *BMUG Newsletter*, Spr. 1986: p.30-31.

The state of the CompuServe Information Service in 1986.

Delphi and GEnie Update. Raines Cohen, *BMUG Newsletter*, Spring 1986: p.31.

The state of these online services as of 1986.

Delphi Update. Raines Cohen, *BMUG Newsletter*, Fall 1985: p.177.

Downloading Mac Software from CompuServe™ using Red Ryder. Sam Roberts, *BMUG Newsletter*, Spring 1985: p.44-47.

Complete instructions for starting CompuServe and getting to software. Status?

TELECOMMUNICATIONS — USENET

A Brief Introduction to the USENET System. Dan Callaway, *BMUG Newsletter*, Summer/Fall 1988: p.120-123.

Basic information about USENET, an international network of electronic news and mail transmitted between computers [BMUG has a few USENET newsgroups]. Also covers the basics of the UNIX ***rn*** (read news) program.

Infomac on ARPAnet. Tom Chavez, *BMUG Newsletter*, Spring 1985: p.9.

How to get to the files stored at Stanford in sumex, from a UNIX machine. Downloading information is obsolete. The public part of ARPAnet is now called InterNet, and hooks to UseNet which is available on the BMUG BBS.

TRAINING

Learning Microsoft Multiplan / Learning Microsoft Chart. Storm Jenkins, *BMUG Newsletter*, Fall 1985: p.97.

Review of interactive tutorials for these programs.

Personal Training Systems: Self-Paced, Tape Cassette Training Modules. Martin Hauser, *BMUG Newsletter*, Win./Spr. 1989: p.222-225.

General overview of the various training options, and the modules from Personal Training Systems in particular. PTS's modules stick to the basics, ignore bugs in the programs covered. They vary in quality.

USER GROUPS

Once More, With Feeling: The State of User Groups Today. Bernard Aboba, *BMUG Newsletter*, Summer/Fall 1988: p.35-38.

A description of the history of Macintosh user groups with suggestions for future directions.

Other Macintosh Users Groups. BMUG, *BMUG Newsletter*, Fall 1985: p.193-197.

Name, addresss, contact and phone number, for all Mac User Groups known to BMUG as of 1985.

UTILITIES

The microFinder. David Foster, *BMUG Newsletter*, Spring 1985: p.70-71.

Ways to make using a 512K Mac quicker & easier.

Fedit 2.1: A useful disk utility. Sam Roberts, *BMUG Newsletter*, Spring 1985: p.69-70.

How to use *Fedit*.

File Finders. Mark Loncar, *BMUG Newsletter*, Fall (Late) 1986: p.93-94.

General review, but more good programs have come out since. Basically obsolete information.

Servant .952. Richard Lamb, *BMUG Newsletter*, Summer/Fall 1988: p.149-150.

This article was written before *MultiFinder* became standard.

Smart Alarms. Steve Cisler, *BMUG Newsletter*, Fall (Late) 1986: p.110-111.

Review of *Smart Alarms,* which is still available as of Spring, 1989

Stepping Out with Excel. Tom Martin, *BMUG Newsletter*, Spr./Sum. 1987: p.131-132.

Review of *Stepping Out*, a screen extender. Example is to use it with Excel. General information still valid as of Spring, 1989.

Stepping Out with MacDraft. Tom Martin, *BMUG Newsletter*, Spr./Sum. 1987: p.178-181.

How *Stepping Out*, a sofware screen extender, made it easier to use *MacDraft*.

Using RamStart. Stephen Howard, *BMUG Newsletter*, Spring/Sum. 1987: p.70-74.

How to use a RAM disk utilility. Program no long works.

Using the Font Librarian: Notes from the Author. Dave Richey, *BMUG Newsletter*, Fall 1985: p.113-114.

Notes about this shareware program.

VIDEO

Coloring Election Night Coverage. John B. deLorimier Jr., *BMUG Newsletter*, Win./Spr. 1989: p.192-195.

How the author used a Mac to create MacII graphics for live broadcast. Covers using the *ColorSpace II* board, *VideoWorks* and the non-Mac *Aurora* video paint system.

WORD PROCESSING — 1985

Microsoft Word — Another Viewpoint. Nate Goldshlag, *BMUG Newsletter*, Spring 1985: p.54-56.

Very critical review of *Word 1.0*.

Microsoft Word. David F. DeNuzzo, *BMUG Newsletter*, Spring 1985: p.50

Critical but generally favorable review of Version 1.0.

Setting up your Letterhead and Signature with MacWrite and MacDraw. Reese Jones, *BMUG Newsletter*, Fall 1985: p.137-144.

Low-tech way of making letterhead. *WriteNow* and *Word* and other products have automated the process.

Using MockWrite. Gordon Haig, *BMUG Newsletter*, Fall 1985: p.152-153.

Using a DA word processor. Now distributed by CE Software.

WORD PROCESSING — 1986

Editors. Gordon Haig, *BMUG Newsletter*, Fall (Late) 1986: p.151-153.

Review of *File Utah* and *MEedit* shareware word processing/editor programs.

T_EX for the Macintosh from K&S and FTL. Richard S. Palais, *BMUG Newsletter*, Fall (Late) 1986: p.167-168.

Review of *MacT_EX* from Kellerman & Smith and *MacT_EX* from FTL Systems Inc. One or both of them may have changed their names, but they seem to still be around...

The New Word Processors. Peter Korn, *BMUG Newsletter*, Fall (Late) 1986: p.121-127.

Critical reviews of *Word Handler* (no longer available as of spring, 1989) and *Laser Author*.

Word Handler. Kenneth William Hirsch, *BMUG Newsletter*, Fall (Late) 1986: p.126-127.

Negative review of *Word Handler*, which is not around any more.

***WriteNow* and *HabaWord*: The Second Generation of Macintosh Word Processing**. John Heckendorn, *BMUG Newsletter*, Fall (Late) 1986: p.114-120.

Overview of the state of word processing as of date. Review of *Write Now* (available in upgraded form in Spring, 1989) and *HabaWord* (finally dead).

WYSIWYG Technical Word Processing. Richard S. Palais, *BMUG Newsletter*, Fall (Late) 1986: p.159-163.

Review of the state of math equations in word processing as of the end of '86.

WORD PROCESSING — 1987

A Negative Review of Microsoft Word 3.0. I.I. Butler, *BMUG Newsletter*, Spr./Sum. 1987: p.81-94.

Some of the problems described here were fixed in versions 3.01, 3.02, and 4.0. Others are still awaiting improvement.

WORD PROCESSING — 1988

FullWrite Professional. Raines Cohen, *BMUG Newsletter*, Summer/Fall 1988: p.245.

Short review.

HabaWord. Harry Critchfield, *BMUG Newsletter*, Summer/Fall 1988: p.243.

Negative review, no longer available as of Spring, 1989.

Microsoft Word 3.02. Linda Custer, *BMUG Newsletter*, Summer/Fall 1988: p.240-241.

Review of version 3.02: as of Spring, 1989, version 4 had actually shipped.

Mini is miniBeautiful. David Morgenstern, *BMUG Newsletter*, Summer/Fall 1988: p.244-245.

Positive review of the shareware program, *miniWRITER*.

Tire Kicker's Guide to Word Processing. Scott Beamer, *BMUG Newsletter*, Summer/Fall 1988: p.237-239.

Covers the state of WP as of date of publication. Some predictions have already come true.

WriteNow. Scott Kronick, *BMUG Newsletter*, Summer/Fall 1988: p.242.

Positive review of this program, v 2.0 is available as of spring, 1989.

WORD PROCESSING — 1989

WriteNow 2.0 (Mini Review). Scott Beamer, *BMUG Newsletter*, Win./Spr. 1989: p.45.

Positive short review

WORD PROCESSING — ACCESSORIES

An Equation Maker for the Mac. Doug Shier, *BMUG Newsletter*, Fall (Late) 1986: p.164-166.

Review of *Mac∑qn*, a DA which allows you to create an object with the equation inside of it, for insertion into a document.

Document Compare. Kenneth William Hirsch, *BMUG Newsletter*, Fall (Late) 1986: p.154-158.

Critical review of the *Document Compare* program. Still available as of Spring, 1989..

Doug Clapp's Word Tools. Scott Beamer, *BMUG Newsletter*, Spr./Sum. 1987: p.38-39.

Careful review of this program, which is comprised of the Counting, Style Checking, and Punctuation Checking modules. Still available as of Spring, 1989.

MacProof. Scott Beamer, *BMUG Newsletter*, Spr./Sum. 1987: p.95-96.

Critical review of version 2.0 of this program. Still available as of Spring, 1989.

More Than You Want to Know About Spell Checkers. Scott Beamer, *BMUG Newsletter*, Fall (Late) 1986: p.132-143.

Complete review as of date, with methodolgy explained. Reviews: *Spelling Champion, SpellSwell, MacLightning, MacSpell+, MacGas, WriteNow* and *Liberty Spell II*, with a short review of *Thunder*, as well. *Spelling Champion, SpellSwell, MacLightning* are his picks, as of the date.

Notes on the Software of Rhetoric: Idea Processors. Michael Lyons, *BMUG Newsletter*, Summer/Fall 1988: p.219-224.

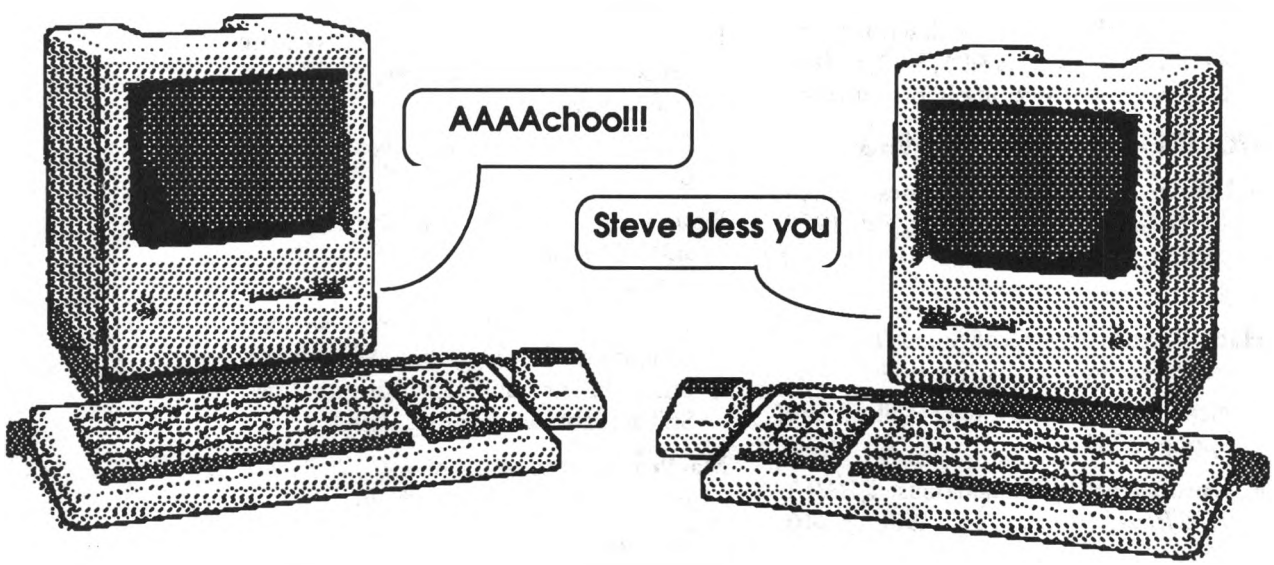
Thoughts on the ideal Idea Processor

Outliners and Idea Processors: introduction, review and potential. Michael Scriven, *BMUG Newsletter*, Spr./Sum. 1987: p.118-124.

Describes the products available as of date of publication, concentrating on *MORE* and *Voila (Acta)*. They are still available, and some other products have come out by Spring, 1989, most notably *MindWrite*.

Spelling Checkers. Scott Beamer, *BMUG Newsletter*, Fall/Win. 1987: p.50-52.

Spelling Champion 3.0, SpellSwell 2.0e, Thunder! 1.1 and *Spelling Coach* 3.0 are all praised (as of date of publication)



A BMUG Contest:

Widening Document Names on the Open... and Save As... Windows

Organized by Ken Hirsch

Supposedly, the Mac accepts long document names—to about 60+ characters. Its practical limit is 31 characters—the length to which *Finder* may be made to display document and application names in its "By Names" mode, using application *Layout*. However, applications, even including the original applications sold and supplied by Apple before being spun off to Claris, show only a portion of document names in their **Open...** and **Save As...** windows.

The application *Layout* takes care of the problem with respect to the Finder. With respect to applications, an earlier article in a BMUG Newsletter in 1986 tells how to modify *Microsoft Word 1.05* to get the scroll windows wider. But the technique does not work on many applications. For other applications, there is... *Window Changer*, written by Miles Sakaguchi in Hawaii. At one time, *Window Changer* enabled widening the **Save As...** and **Open...** windows so we could see the full names. It may be unsafe to try using WINDOW CHANGER with newer versions of applications, with the newer system files, and with a hard disc. The creation of a new version of this most useful utility is open to anyone who wishes to give it a try. In order to encourage the creation of the new version, we are holding this contest.

The Prize

$100 cash, and fame and appreciation from frustrated Mac users such as myself all over the world. BMUG will distribute the winning application to its members and share it all over the world as a freely distributable application. You retain your copyright and source code, but agree to free distribution by entering.

The Task

Create an application to widen the **Open...** and **Save As...** windows in all other applications so that they can show 31 letter Names.

To be considered eligible for the prize, an entry must successfully demonstrate that it can be used with ease by naive Mac users; will widen the **Open...** and **Save As...** windows of various applications so that they present 31 character document and application names on screen; follow the Mac interface and not cause harm to applications and documents. The deadline for submiting entries will be **December 1, 1989**. Announcement of the names of the winner and of the application will be made in the next *BMUG Newsletter*.

How to Win

Here are two suggestions: Examine the application *Window Changer* and its documentation. Miles Sakaguchi, the author, indicates that it would be best to discard his original utility and use a more general approach, so that the new utility will be adaptable to new applications, rather than being specific to the applications in use at the time of its creation. The BMUG Developer's SIG can probably lend some assistance as well.

Where to?

For more information, a complete set of rules, or advice, write to me c/o: **BMUG**, 1442A Walnut #62, Berkeley, CA 94709.

When, Again?

All entries must be postmarked by **December 1, 1989**. The decision by the panel of judges (lead by **Raines Cohen**) is final. Results will be announced in the next *BMUG Newsletter*.

BMUG Newsletter *Glossary*

Version 3.0

by Stephen Howard

3.5-inch drive: A hard disk drive whose disk platter is 3.5 inches across. The standard diameter for half-height and third-height drives. This is becoming the most popular size drive.

5.25-inch drive: A hard disk drive whose disk platter is 5.25 inches across. The standard diameter for full-height drives.

32-bit color: The amount of color the Macintosh can conceive of. Every pixel can have up to 32 pieces of information attached to it describing exactly what color and texture that pixel should display. You need special software from Apple and special color video cards and monitors to display that much color. In those 32 bits, 24 are used for color information and 8 are an "alpha channel" for texture or other information. 24 bits can describe just over 16.7 million different colors. See also **full-chunky**.

32-bit QuickDraw: Extensions to the Mac's graphics functions that allow it to display more than 256 colors. See also Color QuickDraw, QuickDraw.

68000: The chip designed by Motorola that sits at the heart of the Mac 128, 512, 512KE, Plus, and SE. In all these computers it runs at a rate of nearly 8 MHz.

68020: The chip designed by Motorola that sits at the heart of the Mac II. It is five times faster than the 68000 in most operations.

68030: The chip designed by Motorola that sits at the heart of the Mac IIx, IIcx, and SE/30. It is five or six times faster than the 68000 in most operations, and has a PMMU built-in.

68040: Motorola's newest chip that combines the 68030 and 68882 into one chip and is about five times faster still.

68551: See **PMMU**.

68881: The special decimal mathematics chip designed by Motorola inside the Mac II along with the 68020. It is about 100 times faster than the 68000 in floating point mathematics.

68882: The special decimal mathematics chip designed by Motorola inside the Mac IIx, IIcx, and SE/30 along with the 68030. It is about 100 times faster than the 68000 in floating point mathematics.

A/UX (Apple/UNIX): Apple's version of the UNIX operating system developed by AT&T and found on big computers and some personal computers. UNIX allows multiple applications to run concurrently without interfering with each other, which *MultiFinder* can do only if the applications let it. The Apple version is based on AT & T System V with Berkeley 4.3 extensions.

accelerator: A card with a second, more powerful processor that you can insert into a Mac and make the computer operate faster.

access privileges: The ability to open, see, and make changes to files and folders on a file server. Different users can have different privileges for different folders.

accessory access port: A long name for the place on a Mac SE you plug cards into.

acoustic coupler: An older and less reliable type of modem that is basically a tight cradle for the phone's handset. Note: it will not work with high-tech phones that don't have rounded, protruding mouthpieces.

ADB (Apple Desktop Bus): A common means of communicating with peripheral devices that allows the Mac SE, Mac II, and Apple IIGS to use mice, keyboards, and such interchangeably.

AFE: The wrong acronym for Apple File Exchange. See **AFX**.

AFX (Apple File Exchange): Part of the system software which can translate some document formats from ProDOS (the Apple II operating system) to the Mac. Will eventually be able to translate documents from a wide variety of applications and operating systems.

AIFF (Audio Interchange File Format): Apple's standard format for sounds which can be exchanged between applications. Not currently used much.

alert box: A message box that appears when the Mac needs to tell you something important. It usually brings bad news and a beep.

ANSI (American National Standards Institute): A group that publishes many computing standards, which are usually upheld by the industry. The US representative in the ISO. See also **ISO**.

APDA (Apple Programmer's and Developer's Association): The organization within Apple that provides low-cost technical information and materials for developers. Formerly a separate organization, Apple brought it in-house in 1988.

Apple key: see **Command/Apple key**.

Apple menu: The far left menu designated by an which gives access to miniature applications called Desk Accessories, and other little applications as well. The items under this menu can be changed and customized to provide you with your favorite tools most easily. See also **DAs**.

AppleShare: Apple's software that allows Macs and other computers that are connected together (forming a network) to share applications and files; a file server.

AppleTalk connector: Now know as LocalTalk connector. The physical box you need to connect a Mac to an AppleTalk network. It has a Mac-compatible cable on one end and a 2 ports for network cables on the other.

AppleTalk Phase 2: A rather dopey name for a new version of Apple's network protocol that allows for 16.7 million network addresses and has improved data handling. Increases users' control over their network connection at the expense of more headaches for Network Administrators. See also **AppleTalk**.

AppleTalk: Apple's set of rules governing how Macs communicate between themselves and other machines when they are all connected together. Notably this is used almost every time a Mac sends something to a LaserWriter. Commonly refers to the cables which Apple sells to connect Macs together, although these are actually called LocalTalk.

application font: The font an application will use unless you specify another. Usually this is Geneva but sometimes it is New York.

application: A piece of software that does something; also known as a program. Contrasts with a document, which is the thing affected.

ARPA (Advanced Research Project Agency): An arm of the US Department of Defense that funds technology research. Sponsors ARPANET network, a portion of which is used for the Macintosh discussion group called *InfoMAC*.

arrow: The normal shape of the cursor in the *Finder*. Also called the pointer.

ASCII (American Standard Code for Information Interchange): The definition of how the letters of the Roman alphabet and Arabic number system are understood by nearly all computers (except IBM mainframes, which use EBCDIC). Documents containing only text and numbers are sometimes called ASCII files. ASCII is the US adaptation of an international standard and uses seven bits of information. See also **EBCDIC**.

assembly language: The instructions for manipulating pieces of information in a computer in a basic fashion. Assembly language programming is difficult but produces very speedy programs (or portions of programs).

asynchronous: Literally, something not happening at the same time as something else. Usually refers to computers exchanging information over phone lines, where they do not know precisely how long it will take to send each piece of information.

See also **start bit, stop bit, synchronous.**

AT command set: See **Hayes command set.**

attack dialing: Dialing a number or set of numbers repeatedly until you get connected. Used by impatient telecommunicators trying to call busy bulletin board services, which have a limited number of incoming phone lines. It results in getting connected almost immediately after the service has a free line (as long as nobody else is attack dialing).

autoanswer: The ability of a modem to answer a phone call. This is a standard feature of any decent modem.

autodial: The ability of a modem to dial any number you tell it without using a phone (this is like saying your car doors have the ability to open).

autograph: The programming term for version information from an application that appears in the **Get Info...** box (*Finder 6.0* and later only).

back up and **backup:** 1. The very necessary process of copying important software and documents onto some other medium (floppy disks, magnetic tape, et al.) to guard against their loss should anything happen to the original.

2. The media containing the information after is has been copied.

background: Not the front. When an application runs in the background it continues to do something automatically while you use another application. Most often you must be running *MultiFinder* to perform tasks in the background, and then only with certain programs.

backspace/delete key: The key located in the upper right hand corner of the keyboard that erases what's selected. Older Mac keyboards (the Plus and earlier) have a **backspace** key, newer Macs have a **delete** key.

base line: The imaginary line upon which characters in a line of text rest.

baud: The common (and inaccurate) term for bits per second (bps), which is the speed at which modems and networks exchange information. Higher is better, but often a doubling of baud will not result in a doubling of overall performance because of limiting factors (which are boring and technical).

BBS (Bulletin Board Service): Usually a small computer that can be called by your computer through a modem. BBSs are often set up by hobbyists and organizations to facilitate the exchange of information about some particular topic. Larger BBS's are called information services.

Bell 212: The set of rules for transfering information with modems at a rate of 1200 bits per second followed by every modem in the US that a personal computer user would want to buy.

beta: The testing stage of a piece of software or hardware in which problems are discovered and (we hope) corrected. Usually, beta versions of a product are given to select individuals called beta-testers who report problems to the designers. Recently, some vendors have sold beta software to appease impatient customers.

BinHex: A standard way of converting the information in Macintosh files into a form that can be stored on other computers, created by Yves Lempereur. There have been several versions of *BinHex*, but the only one that most Mac users ever hear about is *BinHex 5.0*, which converts files into eight-bit format for storing on personal computers. *BinHex 5.0* conversions happen automatically when you transmit a file using MacBinary. There is also a *BinHex 4.0* in use for converting Mac files in a seven-bit format for storing on older UNIX computers and mainframes. On the computer storing the *BinHex*-ed files, they appear as documents, no matter what they were on the Mac. See also **MacBinary**.

bit (binary digit): A very small piece of information equal to a yes or a no. Lots and lots of these together instruct your computer on how to work and compose all your data. Also known as binary information and represented by ones and zeros.

bitmap: A type of graphic on the Mac composed of lots of dots (like a *MacPaint*

picture). Each of these dots is individually editable, unlike PICT graphics where only larger objects are editable.

bomb: See **system crash.**

boot: To start a piece of software or hardware.

bps (bits per second): See **baud.**

bridge: A combination of hardware and software physically separating but logically connecting two networks. It may perform routing. See also **router, gateway.**

broadcast: When a device on an AppleTalk network sends out a piece of information without a specific address so that all other devices receive it, that's broadcasting.

buffer: A generic term for some area of RAM used to store information while it is being collected and before it gets passed on to wherever it is supposed to go.

bug: Something that makes your computer or software act strangely. Originally from the Olden Days when computers were as big as garages and actual flying pests got inside them causing breakdowns. Nowadays almost always caused by someone making a mistake somewhere in the original programming.

bulletin board service: See **BBS.**

bundle bit: A piece of information attached to an application that tells the Mac know the application can create documents. If the bundle bit on a document gets turned on, then other documents with the same creator code will not open properly. File editors will let you set or unset the bundle bit manually, and there is a nifty utility called ***BundAid*** that will set all bundle bits correctly. See also **creator.**

bus: Hardware that transfers information between the parts of a computer. Also refers to hardware connecting computers on a network.

button: An area of the screen that acts like a real-world button, i.e. you push it once to do something. Also called a push button. Buttons typically are rounded rectangles with some word(s) in it. A button with a heavy black border is the default button and hitting the **Return** or **Enter** key on the keyboard is the same as clicking it on screen. See also **radio button** and **check box.**

byte: Eight bits forming a meaningful unit (to the computer).

CAD (Computer Aided Design): Using computers to perform many of the engineering and architectural tasks traditionally done by draftsmen.

card: A plastic board with some chips on it that does something when connected to a computer. A card could be anything from a whole other computer to a sophisticated clock. Cards plug into slots inside a Mac SE and II. The SE and SE/30 can only accommodate one card (called the option card), the Mac II family can hold six, and the Mac IIcx family can hold three See also **NuBus.**

caret: (I really don't know where they came up with this one) Any symbol indicating the place in a block of text where new text will be inserted. Called the "text insertion point" on the Mac.

carriage return: See **Return key.**

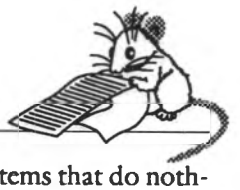
carrier: Some path along which computer information can travel. In telecommunications, carrier refers to a usable connection between computers with modems.

CASE (Computer Aided Software Engineering): Using computers themselves to help manage the complex task of writing software, especially large multi-part programs.

CCITT (International Consultive Committee on Telegraphy and Telephony — in French the letters come out in the right order): An international standards organization for telecommunications sponsored by the United Nations.

CD-I (Compact Disc Interactive): The addition of high-quality sound, computer pictures, and some video to a CD-ROM in the hopes of making the total package more fun or informative to use. Even more than CD-ROM, CD-I is a compact disc standard waiting for a cool product to justify its existence.

CD-ROM (Compact Disk Read Only Memory): Optical media that can store between 500 and 750 megabytes of computer data, or about 40 minutes of Phil



Collins. The information on the disk cannot be changed, although it can be copied and read. See also **PD-ROM™.**

cdev (aka Control Panel device or Control Panel) Utilities that control various aspects of the Macintosh. They range from simple controls, like the volume of the Mac speaker, to complex ones, like an entire macro program. You access these devices through the *Control Panel* desk accessory.

cell: A single block in a spreadsheet capable of holding numbers or a formula.

check box: A special button found in dialog boxes that adds or removes an option.

checksum: A simple kind of error-checking that adds up the bits in a piece of information, divides by some number, and checks the remainder.

Chooser: A desk accessory that allows you to designate a device that you may want to communicate with. Mostly used to select a printer, the *Chooser* can also select file servers, Net Modems, slide makers, etc. This DA also allows you to designate the name by which your Mac will be known on a network.

chunky: A way of storing information about pixels in which all the information is stored consecutively.

cicero: A French typesetting measurement, slightly larger than a 1/6th of an inch.

CL/1: A special language for requesting information from a database. CL/1-compatible applications will be able to request pieces of information from any CL/1-compatible database, thus allowing a standard way of linking dissimilar databases. CL/1 will be built-in to *System 7.0*

click: The action of moving the mouse cursor (usually a little arrow on the screen) on top of something on the screen and pressing the mouse button. Clicking will do one of three things: 1) it will select the item clicked on, if that item is selectable (like an icon on the desktop); 2) it will perform some action if the item clicked on was a button; 3) it will do nothing if the item clicked on was neither a button nor selectable. Some items that do nothing when clicked on will do something if you click and the move the mouse without releasing the mouse button. See also **double-click**.

Clipboard: The place in computer RAM where the things you **Cut** or **Copy** are stored. The Clipboard usually can contain only one selection at a time. This information is erased whenever you turn the computer off. The kinds of information stored in the Clipboard include plain text and black and white or color pictures from the Mac screen. Inside an application, however, the Clipboard can hold almost anything type of information and can even hold multiple items.

close box: A small square in the upper left corner of a window which, when clicked, closes the window. Inside an application, closing the window removes one view of a document, and is not the same as **Quitting**. Also called the "go away" box.

CLUT (Color Look Up Table): A table containing all the colors that a specific image uses. CLUTs usually contain 256 colors but can hold many, many more if the video card can handle it. In graphics programs, the currently active window uses its CLUT for the whole screen, which can make the images in other windows look awful temporarily.

CMYK (Cyan, Magenta, Yellow, Black): A color system used in printing for creating almost any color my overlaying certain amounts of these four colors. See also dithering.

Color QuickDraw: Extensions to the Mac's original graphics functions that allow it to display more than eight colors. See also 32-bit QuickDraw, QuickDraw.

Command/Apple key: 1. A key near the space bar with a cloverleaf and maybe also an "open apple" ♁ image.

2. A combination of keys pressed while holding down the cloverleaf key. Command keys most often perform the same function as menu commands. The correct term is "command key equivalent," but that takes too long to say.

Compact Disc Interactive: See **CD-I**.

concurrent application: An application that is written so that it can run on a file server at the same time as *AppleShare*. Such applications usually provide some service to the network such as print spooling or electronic mail.

Control key: A key found on the newer (Mac SE and later) keyboards that is primarily used MS DOS software. In telecommunications, control key combinations needed by information services are usually issued by holding down the **Command** or **option** key and typing another letter.

copy protection: Security added to software so users cannot simply or easily make copies. Designed to prevent illegal distribution of software, it also inhibits easy use of hard drives, discourages backups, and preventing some software from running properly on the Mac SE and Mac II.

Copy: Placing a copy of the selection into the Clipboard. The selection can be text, pictures or almost anything. See also Clipboard.

CP/M (Command Program for Microprocessors): An older operating system, commonly used on microcomputers in the 1970's.

CPU (Central Processing Unit): The chip that does all the work. Also commonly refers to the computer component, such as the circuit board, in which it is housed.

CR (Carriage Return): See Return key.

CRC (Cyclical Redundancy Check): A complicated kind of error-checking for computer information.

creator: A four-letter word which tells a document which application made it. Also known as the signature. Exapmles: WDBN for Microsoft *Word*; WILD for *HyperCard*; and SIT! for *StuffIt*.

cursor: A part of the screen that moves when you move the mouse. The shape of the cursor varies depending on what application you are using or what the computer is doing. A wristwatch cursor or spinning beach ball tells you to wait while the computer does its thing. In programs that allow text editing, the flashing bar that indicates you place in the text is not called the cursor, it is the "text insertion point."

Cut: Removing a selection from it current location and placing it into the Clipboard. The selection can be text, pictures or almost anything. See also **Clipboard**.

DA (Desk Accessory): One of those nifty little programs that appears as a choice under the (**Apple**) menu and which has a suitcase icon.

daisy-chain: To connect together several devices in a series.

data fork: The part of a document where user-generated data is stored (as opposed to the resource fork, where the application's own information is stored). Some documents (like HyperCard stacks with XCMDs) break this rule.

database: A document designed to store lots of information in predefined categories, and which allows this information to be arranged and manipulated easily. Also refers to the applications which create and manipulate these documents.

DB-9: Trapezoidal connector for printer and modem ports on Mac 128s, 512s, and 512KEs.

DB-25: A larger connector for serial ports used by ImageWriter printers and many other brands of computers.

DBMS (DataBase Management System): A big name for a database application. In some cases, a DBMS includes both software and hardware.

delete key: See backspace/delete key.

DES (Data Encryption Standard): A way of intentionally scrambling your data so that it can not be understood by snoops but can be unscrambled by anyone with the right keyword. DES was developed by the federal government, and is in common use in the US but cannot be legally exported to several other countries.

desk accessory: See DA.

desktop: 1. The (usually) gray area of your screen with the Trash can that appears when you start your Mac. This is where your file organization should take place, just as it would on a real desk. Also referred to as the *Finder*.

2. The adjective added to types of computing work (desktop publishing, desktop communications, desktop engineering) which can be accomplished by a personal computer.

Desktop file: An invisible file on every usable Mac disk which contains a catalogue of the different icons on (or once on) that disk and other important information for the *Finder*. Rebuilding this file (by holding down the **Command** and **Option** keys while starting up) purges it of all information not currently needed and saves space on the disk.

Desktop Manager: A special utility used by *AppleShare* that divides the Desktop file's information into two files, resulting in much faster access to that information. *Desktop Manager* is used by many people to improve the *Finder's* performance with hard disks with lots of files.

dialog box: A message box that appears on your screen when the Mac needs you to give it further instructions or information. Dialog boxes usually have one or more buttons on them with which you respond to the message displayed.

DIF (Data Interchange Format): An older file format (developed for use with *VisiCalc*) used to exchange spreadsheet-type data between applications. Its modern equivalent is SYLK.

Digital Video Interactive: See **DVI**.

dimmed: When a button, menu item, or icon is unavailable, it gets drawn in gray rather than in black. Such an item is dimmed.

DIN-8: The small, round connector for printer and modem cables which fits into the small, round printer and modem ports on a Mac Plus (and more recent Macs).

DIP (Dual Inline Package): A kind of chip that has two rows of connectors. DIP SIMMs are RAM SIMMs using DIP chips, which are taller than normal SIMMs and may not fit under larger hard disks in a Mac II family computer.

Direct Slot: The connector inside a Mac SE/30 that allows add-on hardware to be connected in the computer. See also **card**.

directory: 1. The list of the contents of a folder or disk, ordered by name or icon or date, etc.

2. The first few sectors on every disk which contain information about what files are on the disk and the size, location, and type of these files. When a disk is damaged the problem is often found in a garbled directory.

disc: The correct spelling of "disk" when refering to compact discs. It looks lean and high-tech. Who said it had to make sense?

disk: A round piece of plastic with magnetic stuff on it where you store information you want to keep around after you turn the computer off. Comes in hard and floppy varieties: standard Mac floppy disks have a hard plastic cover with a sliding metal door (for use by the computer—not you), these are also called 3.5" floppies to distinguish them from 5.25" floppies used by the Apple II series and IBM PC computers; hard disks come in 3.5" and 5.25" sizes, but the disk is encased in machinery that spins it and reads its contents very quickly. Standard Mac floppies can hold 800K of data (the older standard was 400K). Hard disks can hold much more data, typically 20 Megabytes, 40 Megs, 80 Megs, and larger. The FDHD floppy disk drive in Mac IIx s and SE/30s can hold 1.4 Megs of data.

Display PostScript: Extensions to normal PostScript that adapt it to drawing graphics on a computer screen. This is the graphics display language used in the NeXT computer.

dithering: Mixing colors you do have to make the illusion of a color you do not have. A process commonly used in printing to reduce the number of colors needed for a particular print job. Also used with black and white images to give the illusion of gray when seen from a distance. See also gray-scales.

document: A file on the computer containing information to be acted upon (as contrasted with an application which does the acting).

DOS (Disk Operating System): The software instructions that tell a computer how to act like an IBM PC; the *System* and *Finder* for those machines. The most common flavor is MS-DOS (made by Microsoft) although there are others.

double-click: To click the mouse twice quickly in succession without moving it. This usually tells the Mac to open or launch whatever was clicked upon.

double-sided: A floppy disk that was verified at the factory as being able to hold information on both sides. Double-sided Mac disks hold about 800K. Almost all disks are made double-sided, but only those that have been verified on both sides are sold as such.

download: Transfering a lot of information from another computer through the phone lines and saving it onto a disk. This action is slightly different from communicating interactively, because downloading involves a bulk transfer, usually of whole documents, applications, or a series of messages. See **modem**.

downloadable fonts: Descriptions of fonts that are not built into a printer but are kept on a hard disk (connected to either the printer or the Mac) and sent to the printer as needed. This process takes time and makes printing slower. Virtually all downloadable fonts in the Mac world are written in the PostScript language. See also PostScript.

dpi (dots per inch): a measure of resolution on a printer or scanner. The more dots per inch the device is capable of producing or reading, the more detailed and smooth the resulting output. The LaserWriter family of printers print at 300 dpi, the ImageWriter IIs print at about 150 dpi; the standard Mac screen is 72 dpi, and typeset-quality print starts around 1,000 dpi and goes way up there.

DRAM (Dynamic Random Access Memory): The most common kind of RAM, the one people mean when they just say "RAM." See also **RAM**.

driver (resource): A piece of software which controls communication between your Mac and some peripheral device. Drivers usually need to be in the same folder as the *System* in order to be used. The most common drivers are those needed for printing.

DVI (Digital Video Interactive): A compact disc with video pictures on it. See also **CD-ROM**.

DXF (Drawing Exchange Format): A file format for detailed engineering and architectural drawings.

E-mail (Electronic Mail):Messages (and enclosed files) sent from computer to computer over a network or on-line service.

EBCDIC (Extended Binary-Coded Decimal Interchange Code): A definition of the Roman alphabet and Arabic number system developed by, and used almost exclusively by, IBM for its mainframes. EBCDIC performs the same function as ASCII but is completely different (although translation between the two is not hard). See also **ASCII**.

echo: (aka echoplex) In telecommunications, the action of sending every character that is typed to the receiving computer and having that computer send it back before showing it on screen. A simple, but useful way to confirm that communication is happening correctly.

eligible: The status of a file capable of being translated by the *Apple File Exchange* application. See also **AFX**.

em dash: A dash (—) as wide as the character "m" in a given font. You get this special dash by holding down the **Shift** and **Option** keys while typing a **hyphen**.

em space: A space as wide as the letter "m" in a given font, usually gotten by holding down the **Option** key while hitting the **space bar**.

en dash: A dash (–) as wide as the character "n" in a given font. You get this special dash by holding down the **Option** keys while typing a **hyphen**.

EPSF (Encapsulated PostScript File): A type of document that can contain a lot of highly detailed graphics information that is resolution independent (i.e., it will print on a variety of printers with different resolutions) linked to a simpler bit map image of the same graphic.

EtherNet: The standard protocol for fast networks. Operates at a speed theoretically forty times faster than AppleTalk protocol; actually not usually a noticeable speed increase except during transfer of large files over a large network. Requires EtherTalk card or AppleTalk to EtherNet bridge. See also **AppleTalk, bridge, EtherNet.**

EtherTalk: Apple's protocol for packaging AppleTalk packets in an EtherNet-compatible format. See also **Ethernet.**

event: Some action made by a user or by software that the software wants to know about. Like a bored dilettante, Mac software sits around waiting for events to happen. When you click on something, that sends an event to the Mac. Software works by responding to events.

expansion connector: The place you plug a card into, aka a slot.

fast Xmodem: A set of rules for sending information over phone lines in 1K chunks. See also XModem.

FAT (File Allocation Table): The list of where the parts of all files are located on disk. The Macintosh holds this information in its directory file. See also **directory.**

Fat Mac: The Macintosh 512 (not the 512KE), which was identical to the original Mac except it had 512K of RAM instead of 128K.

fax modem: A modem capable of sending images to a fax machine. Typically, such modems are at least Group III-compatible and come with software that makes sending faxes as easy as printing. The better fax modems can also receive faxes without interrupting your work. See also Group III.

file editor: A software utility that allows you to open and change the resource and data forks of a document or application.

file format: A standard way of storing documents with similar types of information. Most file formats are specific to a particular application, but some are common to many applications. **Text** is a standard file format for words and numbers, and many applications can read text documents because they know what to expect. Bit maps are a standard file format for *MacPaint*-type graphics, and PICT is a nearly standard file format for object-oriented graphics.

file server: A computer and hard disk(s) on a network which contain documents and applications available to other computers on the network. Also provides other services such as print spooling and **Electronic Mail**. See also **network.**

file type: See **type.**

filename: The name of an application or document. It can be up to 31 characters long, but can't contain any colons (:), because those are reserved for pathnames, and shouldn't begin with a period (.), because that's reserved for special system files. See also pathname.

Finder: The software that organizes the contents of and keeps track of changes to all files on a disk. It is one of the two files usually needed to make a start-up disk. See System and Finder.

firmware: Instructions for the computer that exist partially in hardware (in chips) and partially in software (on disk).

FKEY: 1. A miniature program, similar to a desk accessory, which is run by hitting a command-shift-number combination. FKEYs can be installed semi-permanently as resources in your *System* (like desk accessories) or added temporarily with utility programs.

2. The extra 10 or 15 keys on extended keyboards that can be programmed to do things using macros.

floating point: Refers to mathematical equations in which an (essentially) unlimited number of digits after the decimal may be used.

floppy drive: short for **floppy-disk drive.** The mechanism which reads and writes computer disks.

folder: A place to hold documents, applications, and other folders on a Mac disk. Folders have icons on the desktop and hold virtually unlimited number of files. You move items into a folder by dragging the item's icon onto the folder. The easi-

est way to open a folder is by double-clicking on its icon.

FOND: The kind of resource where exact spacing information about the characters in a font are stored. See also FONT, kerning table.

FONT: The kind of resource where the images of the characters in a font are stored. See also FOND, font.

font: A set of characters in a typeface. Plain (or Roman), Bold, Italic, and Bold/Italic are the traditional styles within a font family.

fragmented disk: A disk on which the information is broken up into lots of little pieces and scattered throughout. This is normal. The Mac uses the nearest available disk space while running. This can become a problem on hard disk drives. A seriously fragmented disk appears slower because the computer has to search many places for information. Eventually a disk can become so fragmented it will lose data. Utilities can be used to defragment a disk and, although this may take several hours with a hard disk, it is a good idea if you use your Mac a lot.

frame grabber: A hardware device that can capture video images off a television, laser disc player, or similar device.

front end: Software (and rarely hardware) that communicates with other software and sometimes hardware. The purpose of a front end is to either limit access to the actual software and hardware being used or to improve the interface of that hardware and software so that it is easier to use.

full-chunky: The way the Mac stores information about color, where all information about each pixel immediately follows the location of each pixel.

full-duplex: Simultaneous, two-way exchange of information.

full-height: A hard disk drive mechanism that is over three inches tall is full-height. Disk drives with the largest capacities usually come in full-height sizes only. Full-height drives do not fit inside Mac SE family or Mac IIcx family computers and fit in Mac II family computers only if the hard drive mounting bracket is replaced with a bigger one. So full-height drives may not fit on top of DIP SIMMs in a Mac II.

gateway: A connection between computer networks that translates the information from the format needed on one network into the format of another. In telecommunications, a gateway allows messages from one information service or bulletin board service to be carried by another.

genlock: The ability to coordinate a video image with a computer-generated image, often on the same screen.

gigabyte: 1024 Megabytes.

gray-scale: Different shades of gray that are really gray (not just patterns of black and white dots arranged to look like gray from a distance). See also **dithering**.

Group III: The latest and best standard for facsimile transmissions (you know — fax machines). Group III-compatible fax machines or fax modems send data at 9,600 bits per second, at a resolution of 216 dots per inch, and can send some gray-scale information at their option. Group III is the overwhelming fax standard in the US, but not so much so in Europe.

half-bridge: A combination of hardware and software connecting a network to telephone lines for the purpose of sending data beyond the physical limits of the network.

half-duplex: An "ping-ponging" exchange of information where both ends can send, but not at the same time.

half-height: A hard disk drive that is about one and a half inches tall. This size drive fits inside all Macs (except the laptop, if there ever is one).

handshake: The exchange of information between to devices (usually modems) whereby they determine the optimal conditions for further communication.

hard drive: short for "hard disk drive." A sealed mechanism which reads magnetic disks typically holding many megabytes of information. See **disk**.

Hayes command set: A set of instructions for controlling modems developed by Hayes Microcomputer Products (the

world's largest seller of modems) and informally standardized in their 1200 baud modem. Virtually all telecommunications software and hardware support this set of commands to some degree. Also called the "AT commands set" because each command is preceded by the letters "AT."

HFS (Hierarchical File System): The way the Macs after the 512E keep track of the contents of folders. The Mac forgets what is inside a closed folder until you open it. This is more efficient than having the Mac remember everything on a disk.

hierarchical file system: See **HFS**.

hierarchical menu: A sub-menu that pops up when you select a specific menu item. Hierarchical menus are used to provide many choices within a category without bringing up a dialog box. Menu items that lead to sub-menus are designated by a black triangle, on the right side of the menu, pointing right.

high-end: A vague and slightly snobbish term for computer hardware or software which is complicated, costs a lot of money, and is more powerful than what you own.

highlight: A way of designating a selected area by inverting its colors.

hot spot: The one pixel in the cursor that actually shows the mouse's location on screen, and the part of the cursor that must be aimed accurately. On the arrow cursor, the hot spot it the tip of the arrow.

HyperCard: An application for creating databases, utilities, presentations, and other kinds of applications. *HyperCard* is part of Apple's System software and is difficult to define briefly. If you have a Mac, you probably have it so stop reading this glossary entry and go play with it for a while. The things created with *HyperCard* are called "stacks" (of cards, get it?) and require *HyperCard* to run.

hypermedia: Simply the extension of the hypertext idea to cover non-textual information, like pictures and sound (not much of a intellectual leap).

hypertext: A concept articulated by Ted Nelson in which any piece of textual information on a computer can be connected to any other. Users can jump from one piece of information to other related pieces quickly and thereby learn things in a non-linear, semi-random sequence. Users should also be able to create these links between pieces of information. Parts of the hypertext ideal are present in some Mac applications, notably *HyperCard*.

I-beam: Cursor shape looking like the edge-view of an I-beam; used for entering text.

IAC (InterApplication Communications): The process of exchanging information and instructions between applications. A whole suite of IAC capabilities will be a part of *System 7.0*, including automatic updating of information shared between different kinds of documents and the sending of basic commands (such as Open, Save, Quit) from one application to another.

icon: A small picture representing something. On the Macintosh, icons represent documents, applications, and devices, and sometimes represent processes. For example, a disk icon represents a physical disk but the Trash can represents the action of throwing something away.

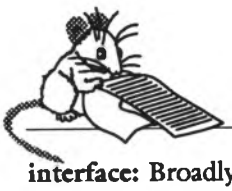
image backup: Full or global backup where everything is copied. Also see **backup**.

incremental backup: A type of backup where only those things which have been added or changed since the last back up are copied. See also **backup**.

INIT: (aka Startup document) A file that is run before the rest of the *System* stuff when the computer is turned on, or a resource that is placed semi-permanently inside the *System* file. INITs are typically small programs, pictures, or sounds, and can make your Mac do things strange and wonderful things. They also take up RAM.

initialize: The process of erasing everything on the disk and checking the medium for physical errors. This must be done to new disks before they can be used by the computer. Also called formatting, initializing permanently erases all previous contents of the disk.

insertion point: The place where what you type will next appear on screen, identified by a flashing vertical bar.



interface: Broadly, the way any two things communicate with each other. More commonly, the way a computer appears to the user, and the rules by which they communicate. The Mac has a graphical interface because it makes use of pictures and images to convey meaning. Most other computers use a command-line interface which uses specific typed commands to convey instructions.

interleave: Ratio telling how many times a hard disk has to spin around before it can get the information it wants. Lower is better.

Internet, the: International telecommunications network formed by academic, industrial, and government computers exchanging messages constantly. Includes Usenet, Arpanet, UUCP Mail, and many smaller telecommunications networks.

internetwork: A group of networks joined together with bridges, routers, gateways, etc. capable of communication with each other. Usually called an "internet."

invisible file: A document or application which is on a disk but whose icon is not shown. It is not counted as an item, and cannot be selected in any standard way. Such files can still be accessed by an application and will be seen by utilities. Any file can be made invisible.

ISO (International Standards Organization): The really big organization that slowly works out standards for telecommunications for the whole world.

ISO/OSI (International Standards Organization/Open Systems Interconnect): A set of rules, still under development by the ISO, to standardize communication between different types of computers. Universal conformity to these rules promises easy exchange of data between any two machines.

IWM (Integrated Woz Machine): The chip that controls the disk drive in your Mac. You probably don't need to know this, but it's a fun name for a chip.

Kermit: A telecommunications protocol developed at Columbia University (where lots of cool computer stuff comes from), widely used on UNIX machines. Kermit's big claim to fame is it works across eight-bit and seven-bit machines and it can transfer batches of files at a time.

kern: To adjust the spacing between two or more characters. Kerning can be done in any amount, but small amounts are best.

kerning table: A set of values describing the exact spacing between any two letters in a font. This table, if it exists for a given font, is stored in that font's FOND resource.

kludgy: Awkward and non-intuitive. Used to describe applications or methods of doing things on the computer which do not live up to the Macintosh ideal.

LAN (Local Area Network): A bunch of computers connected via cables. LANs typically have 50 or fewer computers hooked together, in the same building. Larger and smaller variations do exist, however.

launch: To run, or start, an application.

leading: The space between two lines of text, usually measured in points (72nds of an inch). On the Mac, leading is usually measured from the top of one capital letter to the top of another on the next line.

LF (Line Feed): An invisible character that instructs the printer to move down to the next line. On character-based computer displays, the line feed is used for the same purpose. On the Macintosh it is not used and often has to be removed from word-processing files transferred from other computers.

ligature: A character that is drawn differently depending on its position in a word or relative to other characters.

Lisa: Macintosh's grandmother, also called the Mac XL.

local area network: See **LAN**.

localization: Adapting software to another country, culture, or language by rewriting the menu names and menu items, default settings, and anything else necessary to make the application understandable and appropriate.

log off: To quit a multi-user computer or computer service.

log on: (also log into) To get access to a multi-user computer or computer service, generally by identifying yourself with a name and password.

MacBinary: A special format for storing Mac programs on other computers. The Mac document or application is converted into a highly specialized form of text for storage on other machines, and then converted from text back into a Macintosh file when transferred back to a Mac. Most telecommunications programs do all this automatically.

macro: A series of commands, mouse movements, and keystrokes that are recorded and played back. Macros are used by many applications and utilities to automate complex or repetitive tasks. Macros are created typically by having the computer record a series of actions as you go through them (this is called a "watch me macro") or by writing out instructions in a special programming language. The languages used for making macros are usually not as powerful as traditional programming languages, and so they are often called "scripting" languages, and the macros are called "scripts." Different applications and utilities use different macro languages, which are not compatible with each other.

MacroMaker: A basic macro utility include with Apple's System software that records keystrokes and mouse actions and can play them back. See also macro.

mail merge: Junk mail for the rest of us. Combining a document with special holder in it for database information with a database whose information matches those holders, usually for the purpose of making form letters. For example, a form letter would have holders in place of name, address and title and a database containing that information could be merged with that letter to create as series of "customized" letters.

marching ants: A way of designating a selected area with a rectangle of dashed lines and then moving the dashes around the boundary. The result looks kinda like marching ants.

MCS (Multichannel Communications System): A telecommunications protocol that creates three channels of information transfer: one for sending a bulk of information outward, one for receiving a bulk of data, and one for "chatting" with the recipient. Written by Yves Lempereur and used by the Macintosh shareware program *MCS*.

mega-pixel: An adjective for a computer monitor that displays (at least) one million pixels. The typical shape is 1024 pixels wide and 1024 high.

megabyte: 1024 Kilobytes; the currently standard amount of RAM in all Mac's. Slightly more data than is held on a double-sided floppy disk.

memory: Where information is stored. It comes in two varieties: volatile and non-volatile. Volatile memory is temporary and can be easily lost (RAM is volatile memory and is lost whenever the computer loses power). Non-volatile memory is not as easily lost (a floppy disk is non-volatile memory and usually must be specifically erased). Memory is measured in groups of bytes (kilobytes, megabytes, gigabytes, etc.).

menu bar: The horizontal strip usually visible at the top of the screen which contains the titles of various menus. If the menu bar is not visible, you are probably using *HyperCard* and should hold down the **Command/Apple** key and press the **space bar.**

menu title: A single word on the menu bar which identifies a list of commands.

menu: A list of commands which appears on screen, and which you can choose from a command without remembering how to type it. The Mac mostly uses pop-down menus (although many call them pull-down) which are accessible at the top of the screen, although there are also pop-up menus sometimes available in dialog boxes.

MFS (Macintosh File System): The way Macs originally kept track of what was on a disk. It's less efficient than HFS and made using a hard disk difficult.

MIDI (Musical Instrument Digital Interface): A set of rules for exchanging information between computers and other musical instruments.

MIFF (Multimedia Interchange File Format): Apple's proposed format for files containing color animation and sound. Not currently used.

MIPS (Millions of Instructions Per Second): A common, if somewhat misleading, measure of a computer's processing power. A normal Mac II, IIx, IIcx, or SE/30 can process about 2 MIPS.

mode: A state in which you choices are limited. In general, Mac software tries to avoid modes and let you choose any command at any time. Dialog boxes are a willful intrusion of modality because they occur when specific information is needed before the computer can continue.

modem: A piece of equipment used for communication between distant computers: a MODulator/DEModulator. It translates digital computer information (bits and bytes) into analog noises (*Moon River*, Auld Lang Sine) and sends these noises over standard telephone lines to another modem, which does the reverse.

modifier key: A key with no character associated with it, but which changes the behavior of another key. The modifier keys on the Mac are **Caps Lock**, **Command**, **Control** (on Mac SEs and newer), **Option**, and **Shift**. A few applications recognize the **Num Lock** key as a modifier.

motherboard: A piece of woven fiberglass onto which all the most important chips fit, including the central processing unit which runs your computer. See also **CPU**.

mouse: A rolling device that moves a cursor around a computer screen and comes with one or more buttons. Moving the mouse cursor and clicking the button is one way of controlling a computer. On the Macintosh, the mouse is standard equipment and comes with one button. On other computers, the mouse is optional or not available and usually has two or three buttons. See also **click**.

moof: The noise made by a DogCow.

multi-tasking: The ability of a sophisticated computer to calculate separate problems at the same time. Multitasking is used on large computers to handle multiple users and is being introduced into small computers to allow a single user to continue working even when the computer has to spend time figuring something out (on a non-multitasking computer, when the computer has to figure something out the user has to wait).

multimedia: Any combination of pictures, moving pictures, and sound.

munging: Like when you step on bubble gum on the sidewalk on a hot summer day; when this happens to one of your files, it's munged.

native ImageWriter font: A simple, ugly font that the ImageWriter can print very quickly because it is built into the printer. This is the font you get when print in Draft mode and when testing a printer.

nesting: Placing folders inside other folders.

network: Computers connected together in order to exchange information. Usually this is accomplished with cables but sometimes with modems and telephone lines.

nfnt: A kind of resource for storing character images and spacing information. Fonts stored in nfnt resources can be linked so that choosing Bold style automatically switches you into that font, even though no Bold version of the font appears on an application's font listing.

node: A device that is attached to and is capable of communicating with a network. See also network.

NSA (National Security Agency): You are probably expecting some left-wing, Berkeleyesque snipes at this federal agency, but the NSA is in this glossary only because they possess the largest concentration of computing power in the US, and quite possibly in the world. Just thought you might want to know.

NTSC (National Television System Committee): This name is most commonly

used as an adjective for a kind of video format, notably the standard for broadcast video in the US.

NuBus: A set of rules for connecting hardware directly into a computer. Used by the Mac II family of computers for talking to cards installed in it. See also **cards**.

null-modem cable: A cable for connecting two devices through their serial ports in which the wires carrying information (two and three) are crossed, so the information coming out of one devices goes into the other. This type of cable is used to connect a Mac to an ImageWriter and can be used to connect two Macs directly without modems.

nuPrometheus League: A bunch of crazy guys—probably disaffected Apple employees—who decided to give away some of Apple's ROM source code in the Summer of 1989. As of this writing they remain anonymous and apparently unrepentant.

object-oriented graphics: Graphics in which you create elements and then arrange them rather than creating the entire image as one complete thing (analogous to the difference between a collage and a painting). *MacDraw* is an object-oriented graphics application.

OCR (Optical Character Recognition): A process whereby hardware and software look at printed or typed words and interpret them as letters rather than as pictures. In the last year, OCR technology has become remarkable better and soon may be actually convenient. Today's OCR methods require high-powered personal computers in the range of the Mac II and that is not likely to change.

OEM (Original Equipment Manufacturer): The company that actually makes the hardware that other companies buy and resell under their own labels. You need to know the OEM usually only when purchasing hard disk drives but then it is important.

offline: The state of not being connected to another computer. Used to describe your state when performing actions that could be done when connected or not.

online: The state of being connected to another computer or computer service. Also used more generally in "online information service" to describe a service available only to those who can connect to it with a computer.

option card: The card you can install in a Mac SE family computer. See also **card**.

OS (Operating System): Software which sets the rules for access and control of software and hardware. The Macintosh's OS is the *System* and *Finder*. See also **System** and **Finder**.

OSI (Open Systems Interconnect): See **ISO**.

outline fonts: Apple's new standard for fonts that uses mathematical descriptions of each character rather than bitmap images. Outline fonts can appear at any size and at any resolution. Outline fonts will be a part of System 7.0 and beyond.

owner: The user who created an folder on a file server. In AppleShare, only the owner can open folders he creates unless he gives access privileges to others.

PackIt: An old shareware file-compression utility written be Harry Chesley. Files compressed by PackIt should be renamed with a ".PIT" suffix, so others will know how to uncompress them. A newer utility, called *StuffIt* can unpack *PackIt* files and it is more commonly used. See also **StuffIt**.

parallel processing: More than one processor working on the same problem at the same time or working on sequential parts of a problem at the same time. A more powerful alternative than a single processor (which most computers use), regardless of how fast that single chip may be.

parallel transmission: A way to transfer information simultaneously along two paths.

PARC (Palo Alto Research Center): A research lab run by Xerox where the basic ground rules of the graphical interface were developed. These first rules were then implemented in Xerox's Star computer, developed by their Office Products Division. the Star was one of the inspirations for the original Mac.

parity: Error checking at a basic level, where every piece of information has some self-checking numbers attached to it. Parity checking can be used in hardware for maintaining information in RAM chips, or in telecommunications for checking transmissions.

partitions: Subdivisions in memory. On a hard disk, partitions are areas of the disk which are treated like separate disks even though they are on the same disk physically. These are often called "volumes." In RAM, partitions are simply amount of memory reserved for use by particular applications.

Paste: Taking whatever is in the Clipboard and transfering it into the current selection. The contents of the Clipboard can be text, pictures or almost anything. See also **Clipboard**.

pathname: Description of where an application or document is on a disk. The first part is the name of the disk, followed by the sequence of nested folders which lead to the file itself. Parts of the path name are separated by colons (:), which is why you can't use a colon in the name of a folder. the entire pathname can be up to 255 characters long.

pica: A typesetting measurement; 1 pica = 12 points = about 1/6th of an inch.

PICT2: An extension of the PICT format that can handle more colors. See also **PICT**.

PICT: A file format for storing pictures (usually object-oriented graphics). PICT files can be read by a number of different applications, and such files are easily transferred from one application to another. The PICT files created by one application, however, may not be in exactly the same format as those created by another.

PIT: The suffix to a file's name when it has been compressed by the *PackIt* utility. See also PackIt, StuffIt.

pixel: The smallest dot that can be displayed on the screen or a printed page. On the standard Mac screen, one pixel is 1/72nd of an inch on a side; on a LaserWriter, one pixel is 1/300th of an inch on a side.

platform: An ugly variety of shoe *or* a buzz word for a computer (and maybe even some peripheral devices like a printer or disk drive) which together can run software.

PMMU (Paged Memory Management Unit): A kind of chip that controls sections of RAM, necessary for multitasking. The 68551 is a PMMU chip that you can install into your Mac II. The Mac IIx, SE/30, and newer Macs have a PMMU built-in.

pointer: The small angled arrow on screen which represents the mouse. See also **cursor**.

pop-up menu: A menu that doesn't appear on the menu bar but which otherwise acts like a menu. Pop-up menus should be identified by shadowed boxes, but sometime they show up in surprising places.

port: 1. A small plug on the back of the computer into which you connect cables.

2. Rewriting an application so it runs on a computer system for which it was not originally written. A good port adapts the application to the new computer; a bad port makes your computer look like another brand.

PostScript: A popular programming language for defining complex graphics at any resolution, developed by Adobe systems. This is the language the LaserWriter printers use to print high resolution graphics and text and has become an industry standard.

PRAM (Parameter Random Access Memory): A small amount of memory maintained by a battery or two that remembers the date and other *Control Panel* settings (the actual RAM is inside your clock chip). If this information gets messed up, it can really confuse the Mac, so you zap it by holding down the **Command/Apple**, **Option**, and **Shift** keys while selecting the *Control Panel* from the **Apple** menu. the batteries in the Mac 128 through the Mac SE/30 are removable, but the ones in the Mac II family are soldered in.

print server: Apple's name for a print spooler. See also **spooler**.

printer driver: A small file that allows your Mac to talk to a printer. Several come with your *System* and *Finder*, but others are also available which work with specific programs or printers. See also **driver**.

processor: A computer chip that calculates something (as opposed to memory chips which only store things). On the Mac II, for example, there are two processors: a 68020 chip which does most of the work and a 68881 which does only math. The latter is called a coprocessor.

ProDOS (Professional Disk Operating System): The sets of rules that tell Apple II computers how to act like Apple II computers.

protocol: Any set of standard rules for exchanging information.

public domain: A work of any sort for which the author retains no rights or liabilities. Often used incorrectly to describe copyrighted, publicly distributable software for your computer.

QuickDraw: A set of functions built into the Mac for drawing graphics either onto screen or onto a printed page. One of the Mac's best inheritences from the Lisa.

QWERTY or **DVORAK:** Two different arrangements of the keys on a keyboard. QWERTY (named after the first six characters on the top row of keys) is the standard , but it is awkward and makes typing difficult. Dvorak (named after the guy who invented it) is non-standard, but allows much more rapid typing.

radio button: A button allowing you to select one option from among many.

RAM (Random Access Memory): the temporary memory in which a computer stores information while it's running. The early Macintosh computers are easily distinguished by amounts of RAM: the original Mac has 128 Kilobytes of RAM, the Fat Mac has 512K, the Mac Plus has 1024K (aka 1 Megabyte).

RAM cache: A variable amount of RAM which can be used to store information which your Mac needs frequently. Not to be used with *HyperCard*, and potentially dangerous with poorly written applications.

Read Me documents: Documents which describe an application or other software. Apple's Read Me docs are in *Teach Text* format (a variant of text-only), other applications use often text format also.

refresh rate: The speed at which the video screen is redrawn. Faster is better. The Mac Plus screen refreshes at 66 Hz (66 cycles per second), which is much faster than most TVs or other computer screens.

region: Any arbitrary set of pixels treated as one object. You don't need to know this, but Bill Atkinson's patented method of handling regions is one of the most important pieces of QuickDraw.

relational: A quality of sophisticated databases. Relational databases actively transfer information between separate files so that one file can update many others without the user having to (i.e., a change in one will be reflected in the others automatically).

resource fork: A part of an application where data specific to that application is stored. The resource fork is composed of separate resource packages, like volumes in an encyclopedia. See also **data fork**.

Return key: Just like on a typewriter, the Mac's **Return** key ends one line and starts another. Weirdly called "carriage return" by some people who seem to not realize that computers don't have paper carriages. In dialog boxes, typing **Return** will often perform the default action, such as opening the selected file in an **Open...** dialog. The button for the default action should be designated by a thick black border around it but often it not. In telecommunications, you sometime must type **Return** at the end of every command in order to send it.

RGB (Red, Green, Blue): A type of monitor used on Apple IIs, Macintosh IIs, and other computers which display many colors.

RIP (Raster Image Processor): The computer inside laser printers that convert the graphics instructions into high-resolution bit maps before the printing engine places those bitmaps on the page. More specifically, the various RIPs for Linotronic Imagesetters are called RIP 1, 2, and 3.

ROM (Read Only Memory): Usually refers to the instructions and data built into the chips of your computer that differentiate it from other computers (which have different instructions and data). The Macintosh ROMs have grown with each generation: the original Mac has 64 Kilobytes, the Mac Plus has 128K, the Mac SE and Mac II each have 256K (the ROMs are different in these two: the Mac II truly has 256K of instructions and data, the Mac SE has only about 170K—the rest are pictures of the designers). See also CD-ROM.

router: A combination of hardware and software referee that divides a busy network into smaller networks (called zones) and keeps the information in those networks separate except when necessary. Routers are used when the amount of information being transferred over the network it too large to be easily carried to all parts of the network. See also bridge, gateway.

RS-232C: A standard for connectors between computers and peripheral devices. The Mac uses RS-422A (which is different but fully compatible) to connect some devices. This standard is used with a variety of physical connectors.

run-time engine: Software that allows a document to be run independently of its original application. Many applications (from programming languages to databases) allow users to write programs, but won't run without its parent application. Run-time engines remove the dependency and allow applications to run normally.

SANE (Standard Apple Numeric Environment): Apple's implementation of the standards for mathematical computation developed by the IEEE (Institute of Electrical and Electronic Engineers). Following the SANE guidelines results in predictable, reproducible math.

sans serif: Letters without serifs. See also **serif.**

save/saving: Storing information so that it is not lost if you turn off your computer (or if there is a power failure or System crash). Normally you save to a disk or some other medium.

scanner: A device that can recreate on the computer a graphic image. Scanners can discern various amounts of detail described in dots per inch, levels of gray, color, etc. Used for transferring traditional artwork onto the computer, they will eventually be able to read text.

Scrapbook: A desk accessory into which you can **Paste** text or pictures for use later. It is different from the Clipboard because it saves the information to disk, so it stays around after you shut the computer off.

screen dump: A bit map (*MacPaint*-type) picture of the screen. A way to capture pictures of icons, windows, menus, etc., and an indispensable tool for writing articles about things Macintosh. Holding down the **Shift**, **Option**, and **Apple/Command** keys and pressing the number **3** takes a picture of the screen at that moment, producing a screen dump. On a Mac II (be sure you are set to "2-bit" mode), the picture comes out sideways so it can fit on a single page.

script: Most commonly, a set of instructions in the HyperTalk programming language used by *HyperCard*. More generally, a user-definable set of instructions used in any application.

SCSI (Small Computer Systems Interface): A standard connector between computers and peripheral devices which allows information to be exchanged very quickly. The standard also allows for some communication between devices without the main processor doing anything, although this capability is not used often. The physical SCSI connectors have either 50-pins (the industry standard) or 25-pins (the Apple standard).

SCSI ID number: A number from one to seven that identifies each device connected via their SCSI ports. The Mac itself is seven, and internal hard disk drives are usually one.

sector: A small portion of a disk. A good sector can hold information accurately; a bad sector cannot.

selection rectangle: The dotted box that appears when you click on an empty spot and drag. Anything inside or touching this box is selected when you release the mouse button.

serial transmission: A way to transfer information in sequence, as opposed to in **parallel**.

serif: The little ledges or other embellishments on the ends of letters which make them easier to read.

sfnt: A kind of resource for storing the new outline fonts. These resources contain mathematical descriptions of the characters that are used to draw the characters on screen and in the printer.

shareware: Publicly distributable software that you can use for a time to determine whether you like/need it, and then pay for. Try before you buy software, usually not marketed through traditional channels but available from users groups, bulletin board serves, and friends.

ShrinkToFit: An old shareware utility to reduce the size of files, no longer in common use. *ShrinkToFit* has been superseded by StuffIt. See also StuffIt.

SIMM (Single Inline Memory Module): a small plastic strip of memory chips which fits into a Mac Plus, SE, or II (up to 4 in a Mac Plus or SE; 8 fit in a Mac II) and give it more RAM memory. See also DIP, RAM.

single-sided: A floppy disk that has had only one of its sides verified as being able to hold information. A single-sided Mac disk holds about 400K. Almost all disks are made double-sided, but they only check one side of those they know they will sell as single-sided.

SingleFinder: The1987 hip term for the normal *Finder*, as opposed to *MultiFinder*. the 1989 hip term is "UniFinder."

SIT: The suffix to a file's name when it has been compressed by the *StuffIt* utility. See also **StuffIt**.

size box: The small box in the lower right corner of most windows which allows you to change the size of the window when you click on it and drag. Some applications will not let you drag with complete freedom, and restrict the window size.

snd: short for sound; this is a file format for sounds on the Mac. It comes in two varieties: snd 1, for sounds used by the Mac II System; and snd 2, for sounds used by *HyperCard*.

software piracy: Making copies of commercially-sold software you did not purchase, also known as stealing. The term "pirate" typically refers to those who addictively collect software simply for the pleasure of having lots of it.

solution: A stupid buzz word for just about anything; this word wrongly implies that the right computer and the right software will actually do something on their own. See also **platform**.

spooler: Software and/or hardware which redirects a stream of information so that the computer is not tied up. Most commonly used with printers where the spooler takes over the task of communicating with the printer so you get to use your computer more quickly.

spreadsheet: An electronic general ledger used primarily for calculating numbers although some also have database capabilities.

stack: A document created by *HyperCard*.

stand alone (application): A program that can be run on its own. Also known as a double-clickable application. A correctly written and compiled program is a stand alone, and an interpreted program with a run-time engine is also.

start bit: A very small piece of information used by computer's to signal it is about to send a larger piece of information. Needed in situations where sending a known amount of information takes an unknown amount of time, such as when using a modem to communicate over phones lines. See also asynchronous, stop bit.

startup volume: When there are multiple hard disks with System Folders connected to a Mac, the startup volume is the disk whose *System* and *Finder* the Mac will use.

stationery: A document which opens a copy of itself instead of the original. Useful for standard formats you would like to reuse. (aka a **template**)

STF: The suffix to a file's name when it has been compressed by the *PackIt* utility. See also **PackIt, ShrinkToFit, StuffIt.**

stop bit: The very small piece of information used by a computer to signal that it has stopped sending a larger piece information. It is needed in situations where sending a known amount of information takes an unknown amount of time, such as when using a modem to communicate over phones lines. See also **asynchronous, start bit.**

StuffIt: A shareware file-compression utility written by high school student Raymond Lau. Used by virtually every Mac telecommunicator to reduce the size of files before spending time uploading them. Files compressed by *StuffIt* should be renamed with a ".SIT" suffix, so others will know how to uncompress them. StuffIt can also unpack files compressed with *PackIt*, an older compression utility. Such files end with the ".PIT" suffix.

style sheet: A combination of format settings available through a single reference. These are used to format text easily and so that a single alteration to the style sheet will update all text formatted from it.

suitcase file: A file created by *Font/DA Mover* for storing fonts or desk accessories.

SWIM (Super Woz Integrated Machine *or* Sanders Woz Integrated Machine): A floppy-drive controlling chip which can read IBM's PS/2 formatted disks.

SYLK (Symbolic Link): A file format used to transfer information to and from spreadsheets and databases.

synchronous: A kind of information exchange controlled by timing, usually possible only with computers connected directly to each other. Synchronous transmissions are more controlled and more efficient. See also **asynchronous**.

System and Finder: The two main pieces of software which tell your computer how to act like a Macintosh. There have been multiple revisions and upgrades to these; the latest versions are *System 6.0.3* and *Finder 6.1*. You must have a *System* and a *Finder* (or *Finder* replacement like *Servant*, *PowerStation*, or *Oasis*) on any disk you wish to start the Mac with (aka a start-up disk). On a hard disk drive, you can have one and only one *System* and *Finder*. These two ubiquitous friends are almost always kept in a folder called the System Folder.

System software: Any software that Apple gives you when you buy a Mac. See System and Finder, HyperCard, MacroMaker.

system crash: The loss of control of the Mac when something goes seriously wrong. Most often caused by software, a crash usually requires that you turn the Mac off and on again to regain control (which unfortunately results in a loss of all data not saved to disk).

tags: A method of cataloging the location of data on a hard disk which makes recovery much easier if the disk becomes damaged. Tags are used on Apple's venerable HD20 (not the HD20 SC) nad on 800K and 400K floppy disks.

TCP/IP (Transmission Control Protocol/ Internet Protocol): a set of rules for exchanging information between computers on an Ethernet network.

Teach Text: An application that comes with the system software which allows you to read specially formatted text documents. The Read Me documents on System Tools disks are in *Teach Text* format.

tear-off menu: A menu that you can drag from the menu bar and leave floating on screen for access. Typically a torn-off menu becomes a windoid.

telecommunications: The exchange of information in digital format (as opposed to voice) over phone lines.

terminal (emulation) program: An application that controls a modem and allows communication between computers. Most of these applications make your Mac pretend (for the benefit of the other computer) that it is a dumb terminal, i.e. just a screen and keyboard and little else.

text box: The place(s) in a dialog box where you can type names etc. Usually identified by a thin black outline and flashing vertical bar.

text-editor: An application or desk accessory that allows you to type letters and numbers, but which doesn't enable you to specify much formatting (font, style, tab lengths). The documents created by these are text-only documents. See also **ASCII**.

text-only: A document which contains words but no formatting (such as fonts or columns) and which can be read my many different applications. See also **ASCII**.

third-height: A hard disk drive that is only about one inch tall — a perfect fit for laptops. Few drive manufacturers make drives this slim.

TIFF (Tagged Image File Format): A kind of graphics document which can contain high resolution bit maps and gray scale information.

title bar: The space at the top of a window identifying what the window is showing. Clicking on this and dragging moves the whole window.

token ring: A set of rules, developed by IBM, for exchanging information between computers that are connected with cables. Token ring networks can operate at speeds of 4 megabits per second or 16 megabits per second, which are many times faster than normal AppleTalk networks.

TokenTalk: Apple's implementation of token ring communications for the Mac.

Toolbox: A collection of programming routines built into the Mac ROMs. It is the Mac equivalent of the IBM PC's BIOS but is far more complex.

true color: A color display with at least 24 bits of color information per pixel. See 32-bit color.

twitch: To move from one application to another under ***MultiFinder***.

type: A four-letter code telling the computer a document's file format.

typeset-quality: Equal to or greater than 1,000 dots per inch resolution. The resolution at which the eye can no longer distinguish the very small dots that make up the printed letters or graphics.

upgrade: An improvement in software or hardware. Software upgrades occur when the publisher issues a new version of the product. Upgrades are usually available at a reduced cost (in some cases free) to existing owners. Hardware upgrades involve adding or exchanging existing equipment for newer, usually at full cost.

upload: Sending a lot of information over the phone lines to a another computer, which will hold it. See also **modem**.

utility: An application that does only a few things and which probably doesn't create a document. Most often utilities are applications which can perform maintenance functions on software and hardware.

V.22: A set of rules for transfering information over phone lines at 2400 bits per second, developed by the CCITT. All 2400 baud modems for personal computers support this standard. See also modem.

V.32: A set of rules for transfering information over phone lines at 9600 bits per second. V.32 is the only generally accepted standard for 9600 baud modems, but they are more expensive than other types and so have not been as popular, but this is changing. Note that the Hayes V-Series 9600 baud modem is not V.32 compatible.

vaporware: Any computer product that is announced, and possibly even demonstrated at trade shows, but which is not released on time.

version numbers: The numbers after a program name which indicate its seniority. The higher the number, the more recent (and supposedly more capable) the program. Version numbers are typically given in ones and tenths, and occasionally in hundredths. Before software is released

to the public, it's version numbers are prefixed by a letter. Apple follows this pattern: D for development (the earliest versions), A for alpha testing (still working on major bugs or features), and B for beta testing (most features working, still smoothing out rough edges).

videotex: The whipping boy of the information industry, videotex used to mean any information service accessed through computers that displayed pages of textual information on demand. It has come to mean any computer-based information service that displays anything on screen. Videotex systems were once thought of as the way normal people would get around to using computers, but so far, no service calling itself videotex has made it into the big time.

volume: (aka a hard disk partition) A portion of the total space on a disk that is identified as a separate space. Most often, a hard disk contains one, large volume but it could contain many. Volumes can usually be treated just like separate hard disks.

WAN (Wide Area Network): Computers that are connected together across long distances and can exchange information. The computers need not be connected constantly to form a WAN. Nobody ever says this word, but people do write it.

Wang commercials: (In case you happened to miss them) An advertising campaign in which computer salespeople try to impress their clients (and the audience) with a blue streak of complicated, computer phrases signifying nothing. Correctly reviled by Macintosh users who want to make computers less intimidating.

windoid: The little windows used in some applications which have only a thin, light gray bar at the top and which float on top of the main application window. Tear-off menus typically become windoids.

word wrap: The automatic moving of words from one line to the next when the line gets too long for the margins. This is one of the nice features which distinguishes a computer from a typewriter; allowing you to type continuously without having to hit the **Return** key at the end of each line.

word-processor: An application that lets you type on the computer and which has additional features including a choice of multiple fonts and styles, paragraph and tab formats. A powerful word-processor has other helpful features like automatic pagination, footnoting, indexing, style sheets, spell-checking, etc.

wristwatch: The shape of the cursor when the computer wants you to wait while it does something.

WYSIWYG (What You See Is What You Get): The state when the display on your computer screen matches the image on the printer page, more or less.

X.PC: A file transfer protocol for transfering information in a synchronous, full-duplex fashion. X.PC is not commonly used, and when it is, it's between mainframes. See also full-duplex, synchronous.

XCMD: An abbreviation of "external command." A kind of resource that can be inserted into application to extend the application's capabilities by giving it new commands. Originated in *HyperCard* but now used in many programs.

XFCN: An abbreviation of "external function." A kind of resource that can be inserted into *HyperCard* stacks to extend their capabilities by giving them new commands, which return some information when used.

XModem: A set of rules for sending documents or applications from one computer to another in small pieces over phone lines. Theses pieces can be either 128-byte or 1K. The latter is called "fast XModem." The original XModem was written by Ward Christiansen as part of a CP/M program but was brought into the real world by Kieth Petersen.

YModem-G: A variation on the YModem transfer protocol that does not check the information being received for errors. It is faster, but obviously more susceptible to problems. It should be used only when the phone lines between computers are free from interfering noise.

YModem: A telecommunications developed by Chuck Forsburg that is similar to XModem except that it always uses 1K

chunks, allows for group transfers, and includes better error-checking. Also called "Modem7" by some people.

ZModem: Yet another telecommunications protocol that allows for transfer of information between computers with little error and which enables the transfer to correct itself if errors occur.

zone: One part of a large network. Zones are networks connected to other networks, but the information moving around the network stays inside its zone of origin unless it is addressed to a device in another zone. See also **router**.

zoom box: The little box in the upper right corner of most windows which, when clicked initially, expands the window to fill all or most of the available screen. When clicked a second time, this box contracts the window back to its previous dimensions.

Ending Comments

Traveller's Notes: (Special Singapore Section)

A trip through Southeast Asia and the length and breadth of BMUG

by Raines Cohen

My summer plans were all set. The concept was delightfully simple: go to speak at the Mac fair in Singapore, all expenses paid, and continue from there up to Thailand for a short, relaxing vacation in the countryside, and end up in Bangkok for a few days before returning home. Only a couple of HyperCard consulting jobs and a little gardening around the house to put on hold; a nice, easy, convenient trip. Thailand is cheap, everybody said, no major expenses involved. What better time to put my thoughts in order and get away from BMUG for a while.

So I went. Although I wrote this anything but linearly (years of exposure to Word Processors has crippled my ability to do so), I've edited it into a travelogue-style metaphorical journey to parallel my physical wanderings.

SINGAPORE — MacWorld Expo Asia '89 has been a fun show. In addition to speaking, I've been recruited to help staff the BMUG booth. Here, they call the booths "stands," with good reason: there are no chairs, and the poor exhibitors have to stay on their feet all day! The other booth staffers are **Randy Simon** and **Joe Urcia**, and various local volunteers who show up from time to time. We're running into BMUG members and new joiners from Japan, Indonesia, Thailand, and all over, even a few from Berkeley!

Attendance has been slow, around 24,000 people over four days, including the students who could get in for free. Mac penetration in this part of the world is fairly limited, mostly by the Mac's high price in comparison to the ubiquitous PC clones. We can expect a fair amount of growth in sales in the next year, though, with events like this one, a new consortium-style program to offer discounts to university students, and greatly improved Chinese word processing software on the Mac.

Speaking here is a quite different experience than speaking at, say, a U.S. MacWorld Expo or a BMUG meeting. The different cultural attitudes about politeness, speaking out, and respect, and generally lower levels of Mac sophistication, when combined with the language barrier (although English is fairly ubiquitous), lead to a packed hall at my HyperCard talks, but **no questions** from the audience! My usual style is to allot a fair portion of the time at my talks for Q&A, but this time I had to "wing it" and do more demonstration and lecturing. I can cope...

Pacific Rim MUG Meeting

As readers of my column in the previous few issues of the BMUG newsletter with good memories will recall, decentralization of information exchange is a major interest of mine. I would rather that BMUG **not** be the only place to turn to when it is much more efficient, both for us and for our members, for people to be able to turn to a local or topical group for assistance, and have those groups be constantly exchanging information by decentralized networks.

One very significant occasion of note for this cause took place on July 2 at MacWorld Expo Asia '89 in Singapore: a gathering of representatives from MUGs all over Asia and along the Pacific Rim. The groups attending, including BMUG, gave reports on their structure, activities, accomplishments, and challenges and plans for the future. It was quite revealing to note both the similarities between groups, and the differences.

Most were small groups, struggling with many of the same structual and organizational issues as small groups in the U.S., such as finding a meeting place and volunteers, in some cases a struggle made more difficult by the small number of Mac users and cultural tendencies, such as Hong Kong's work ethic, for example. Some groups were receiving

BMUG phone #'s :
Office 415-549-2684
Help 415-849-4357
Ann. 415-849-9114
BBS 415-849-2684

Mail:
BMUG
1442A Walnut #62
Berkeley, CA 94709

Office:
BMUG
2150 Kittredge #3B
Berkeley, CA 94704

Electronic Mail:
CONNECT, Delphi,
BIX,the WeLL,
AppleLink, GEnie:
BMUG
*FIDO: **161/444***

assistance from Apple or its local dealers or distributors, while others were independent, like BMUG. One group in Japan holds meetings entirely in English, with simultaneous translation when a Japanese person speaks. All the groups were particularly strident in their anti-piracy stances, especially important in countries with little cultural respect for copyright law.

The participating groups collectively decided to cooperate and participate in an exchange. An exchange of PD software and newsletter articles. An exchange by mail, phone, and telecommunications. An exchange of group management techniques and locally created items. I expect that along the way, it will also turn out to be a cultural exchange, where the participants learn about each other's countries, as well as sharing ideas about using computers and running user groups.

We're not going to try to make it unnecessarily complicated. My experience is that the key to building decentralized networks is to start informally and figure out the protocols and methods of exchange as you go. So long as you build in a little redundancy and make sure all participants know how to reach all the others, you can avoid the kind of troubles that FidoNet (and, as a result, the BMUG BBS) has experienced.

The fact that the groups are universally so information-hungry that they're willing to make significant investments in postage and communications costs to forge the link leads me to predict that Pacific Rim exchanges will be more successful than U.S. efforts, such as Don Rittner's MUG News Service, have been to date.

I also believe that BMUG should offer some sort of associate membership to allow other MUGs to join, and perhaps buy BMUG newsletters and the like in bulk, to distribute to their members. I found that **George Mann**, operator of a Laser Parlor in a neighborhood packed with, er, many of another kind of parlor, in Bangkok, is working on starting a Bangkok MUG, and starter-kit type materials would certainly help him a great deal. **David Morgenstern** is currently BMUG's exchange coordinator, so let him know your ideas.

Land of the Cellular Phone Ads

THAILAND — After the Expo, I joined a group of travellers in flying North to Phuket, a peninsular island in Southern Thailand.Thailand's name means, literally, "land of the free"; it's the only nation in these parts never to be colonized. On my trip, it appeared be more "land of the cellular phone billboards." They're all over Southern Thailand, and an indication of the country's infrastructure development as it proudly approaches the prized status of Newly Industrialized Country (NIC). Yet, their presence also reveals a modern-day colonization in progress - Western technology and ideals, especially in business, altering existing culture, like a virus. There are also more tangible costs to such "progress," as smoggy traffic-clogged yet still-exotic BANGKOK showed me. I don't know if I'd want to visit Thailand in a decade or two, at the rate things seem to be changing — it would seem too much like home.

One thing I discovered right away on this journey was the power of literacy, or lack thereof. I can't read (or speak) Thai, and it is quite an experience traveling alone through a city in which about 10% of the signs are in English. To be suddenly illiterate again reveals how much we depend on this acquired skill - reading - to function in society. On a different level, it made me think of beginning computer users, as they climb the still-too-steep learning curve and become familiar with their machines, and struggle to reach the point where the computer helps rather than hinders them. We "power users" must not forget that we were once beginners, too, and that we benefit by more people being more skilled at using the system, and by the system being easier to use.

In this vein, there are several BMUG projects suggested and underway. **Janet Sky** has been leading efforts to have BMUG offer formal instruction - training classes on various topics, including getting started. She has done a lot to evangelize Team BMUG on the concept, to obtain training materials and to put all the pieces in place for classes to begin. Information will appear in The BMUG Calendar and on the announcement line as

sessions are scheduled. Please do contact the BMUG office for more information, especially if you are interested in **teaching** a class. Why not use your skills and knowledge to help people, and make a few bucks for yourself and BMUG on the side? Chances are, you know more than you think you do, and nothing feels nicer than to have a roomful of people tell you as much!

Since different people learn best in different ways, we're also looking to other means of sharing information. Once we've got classes up and running, some feel that a logical next step would be to make **videos**, or at least audio tapes with instruction and perhaps other information. This has gotten quite a bit more debate around the group than classes have, in part because people are unsure about the technology, skills, and costs needed to produce materials of sufficient quality. If you have any advice or information on these topics, drop Janet Sky a line c/o the BMUG office.

Also in the works are a couple of **publications** also intended to make BMUG more accessible to our members, especially beginners. One is a "Best of BMUG", capturing, updating, and reprinting the most useful articles out of the several hundred that we've published over the last few years, as well as thoroughly indexing and creating a bibliography of the all the newsletters. I know that I'd certainly appreciate being able to locate individual articles quickly. If you have certain favorites you'd like to see in the "Best Of BMUG", contact **Avi Rappoport**, who is leading the project whether she realizes it or not. Our **Disk Catalog** is finally available as you read this (thanks largely to the efforts of BMUG Developers SIG leader **Greg Dow**), making it easier to begin to take advantage of the BMUG Library. Other proposed publications include a BMUG Beginners Guide, and an Introduction to BMUG that explains how to take advantage of all that BMUG offers, and to participate more fully in the group. Contact **Randy Simon**, who gets paid to coordinate all of BMUG's publications.

Finally, in the interest of increasing the assistance the BMUG Helpline can provide, both in quality and quantity, **Betsy Kennedy**, along with **Steve Costa**, are working on building databases of technical information and Q&A in forms available for quick reference by helpline staffers and volunteers. Chances are, you'll see large contributions to all of the above publications, as well as other BMUG projects, from the knowledge-base they're assembling. My dream for this venture is to eventually be able to take it and put a "helpline-on-a-disc" CD-ROM together to allow decentralization and distribution of the information so that the BMUG helpline isn't the only place to go for all this information.

Time to Think About BMUG

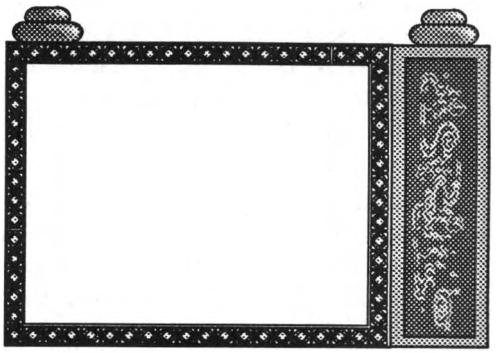
TOKYO, JAPAN — With the assistance of an unscheduled stopover for a day here, this vacation did give me some time to think. To think about other issues, but also time to think about BMUG. To think about questions like:

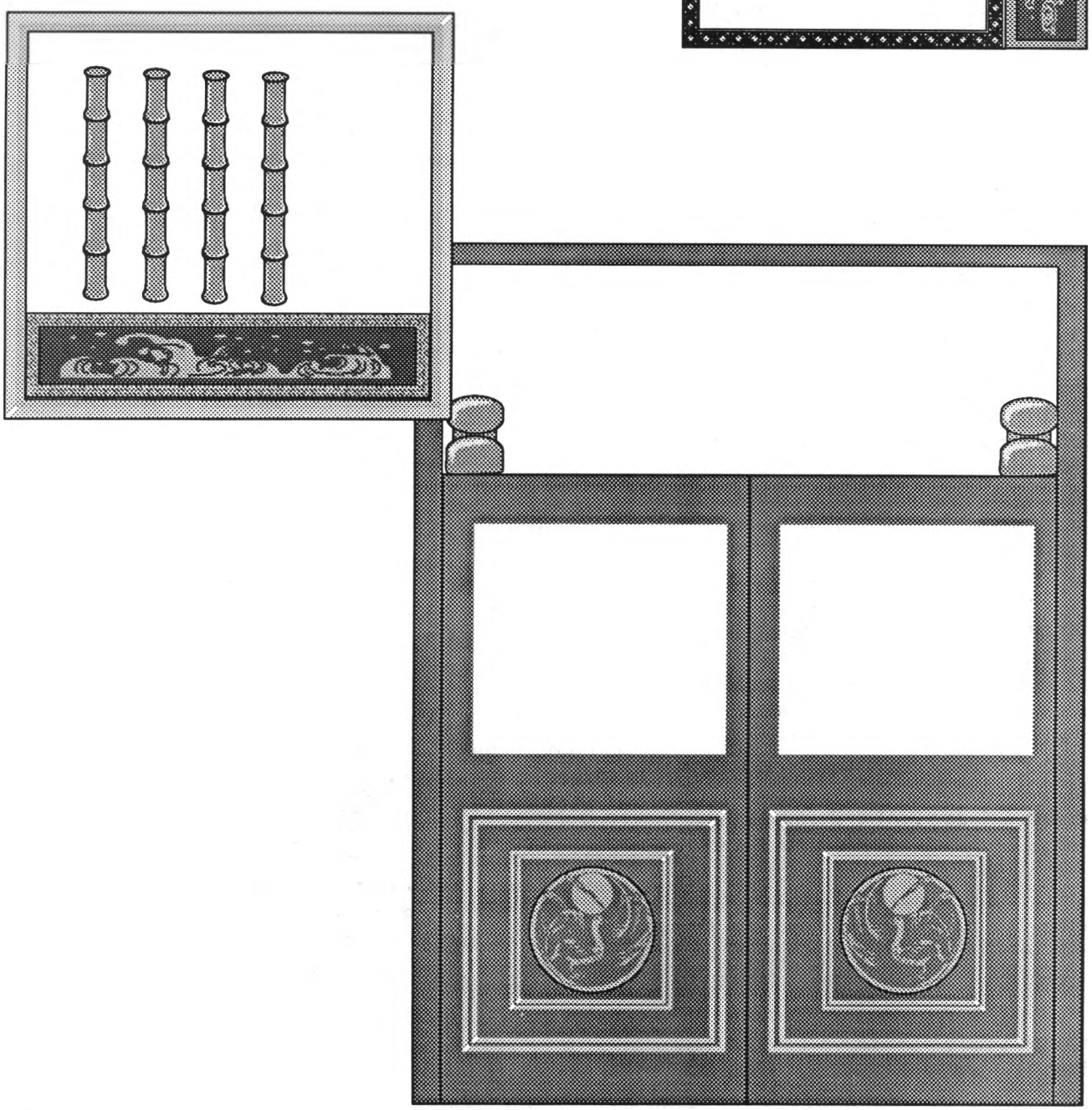
- What is BMUG about?
- What are its goals?
- Is it accomplishing those goals, efficiently?
- What else could it be doing to accomplish those goals?

I've neither the space nor the time to even start on describing these here, but the short-form answer is: a bunch of people around BMUG are working on answering these questions, and you'll probably see a few of the answers, plus an appeal for more of your input, in the BMUG Memo this fall. If you have strong feelings on the above, get your input in, pronto!

There are a lot of issues just relating to existing as a nonprofit organization, and we've gotten some assistance lately from other nonprofits. A seminar put on last June by The Support Center (TSC) of San Francisco helped a lot by bringing local organizations together to exchange information about running groups. We're looking at working with CompuMentor, a group that matches computer consultants to nonprofits in need of assistance. We're also evaluating ways of using BMUG services, especially classes, to serve local and distant nonprofits directly.

SEATTLE, WASHINGTON — One more unscheduled diversion, but I'm nearly home. If I could choose a theme for BMUG for this coming year, it would be "getting closer to our members, all over the world." Because the best advertisement for BMUG is a happy BMUG member. We can do this by improving the quality of what we do, and the ways we deliver it, and by getting more of you involved, wherever you may be.





General Disk Listing

by Application / File Name

? Par9
100%Natural Pic9
10,000Marbles Sou15
1002 ..... Sou13
100BestCos. Bus9
12Colors Par9
1987Data Bus9
1987TaxWorksheet Bus1
1KeyCapsDoodiddles Fon9
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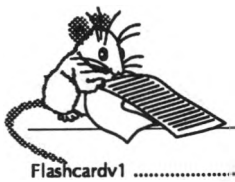

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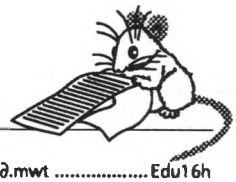

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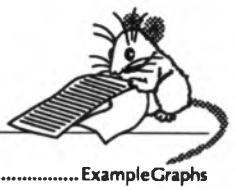

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Gra2 ..... 1mac"togo"
Gra2 ..... Albert
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Gra3 ..... Fronds
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Gra4.4 ..... i/Rabbit
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Tel1 ..... PackItIII(VDem1)
Tel1 ..... SetClock1.8
Tel1 ..... AutoUnStuffItShell1.5.1
Tel1 ..... InstallStuffIt1.5.1
Tel1 ..... QuoteInit2
Tel1 ..... StuffIt1.5.1
Tel1 ..... StuffItCataloger
Tel1 ..... UnStuffIt1.5.1
Tel1 ..... Viewer1.5.1
Tel2 ..... BackDown/Delta+2
Tel2 ..... BBSList
Tel2 ..... DeskZap
Tel2 ..... ModemCable
Tel2 ..... FreeTerm3B3
Tel2 ..... Grafterm2
Tel2 ..... CKMKEY0.8(6)
Tel2 ..... Kermit0.9(40)
Tel2 ..... VT100Keypad
Tel2 ..... MakTerm
Tel2 ..... MCS1c
Tel2 ..... PackItIII(VDem1)
Tel2 ..... PGTerm2
Tel2 ..... Unix
Tel2 ..... UsePrinterPort
Tel2 ..... SquirmTerm
Tel2 ..... TermWorks
Tel3a WWIV31of4.sit
Tel3a WWIV32of4.sit
Tel3b WWIV33of4.sit
Tel3b WWIV34of4.sit
Tel4 ..... Emacs
Tel4 ..... macGEnie
Tel4 ..... PrintMail
Tel4 ..... MacBinarystandard
Tel4 ..... PackitProtocol
Tel4 ..... PCPursuit
Tel4 ..... Xmodemprotocol
Tel4 ..... QuickBDownload15
Tel5 ..... MacBinary
Tel5 ..... MacPageDem1
Tel5 ..... MicroPhoneIISettings
Tel5 ..... PCPgenericscript
Tel5 ..... DemBBSMacro
Tel5 ..... TeleFinder™1Dem
Tel5 ..... TermTalk
Tel5 ..... ZTerm0.8
Tex1 ..... GoldVarb1.5
Tex1 ..... Idealiner
Tex1 ..... Ideastore
Tex1 ..... Add/Strip22
Tex1 ..... DL>Delimiter17
Tex1 ..... Sort1b
Tex1 ..... SortDA1b
Tex1 ..... TabExpander1a
Tex1 ..... TabExpanderDA1a
Tex1 ..... StripAdd/Strip22
Tex1 ..... TabUti
Tex1 ..... Cleanup
Tex1 ..... Converter
Tex1 ..... Converter#2
Tex1 ..... EndLine2
Tex1 ..... FileConversion1
Tex1 ..... FileConverter
Tex1 ..... FileDiddler
Tex1 ..... FileStripper2
Tex1 ..... ink2
Tex1 ..... TexDiff.9
Tex2 ..... Display
Tex2 ..... EDIT2
Tex2 ..... EvolUtions
Tex2 ..... FileSplitter.APP
Tex2 ..... FileSplitter.DA
Tex2 ..... File1.Utah
Tex2 ..... Macify2.8
Tex2 ..... KeyCode
Tex2 ..... MEdit1.5
Tex2 ..... Pascal
Tex2 ..... Q/Reader1
Tex2 ..... Temperament
Tex2 ..... TexRanger
Tex2 ..... ValSpeak
Tex2 ..... WordCount31
Tex2 ..... yapuv3
Tex3 ..... BMUGFall84NL
Tex3 ..... Conversion
Tex3 ..... FaceLift1
Tex3 ..... FileCleaner
Tex3 ..... FileTricks
Tex3 ..... FixItAll
Tex3 ..... FixMacWrite
Tex3 ..... Index4
Tex3 ..... MacWriteRecover
Tex3 ..... Mangle
Tex3 ..... MWtoTex
Tex3 ..... QuoteConverter.1b
Tex3 ..... MWRecover
Tex3 ..... Utie+1
Tex3 ..... Utie+1
Tex3 ..... WordCount3
Uti1 ..... DiskDup+
Uti1 ..... MacClone2
Uti1 ..... SuperCopy1
Uti1 ..... CompleteDelete
Uti1 ..... DiskList/DR
Uti1 ..... DiskTest
Uti1 ..... Makecontiguous
Uti1 ..... Eraser
Uti1 ..... Eraser
Uti1 ..... IconExchanger6
Uti1 ..... IconExtractorv1
Uti1 ..... ICONFile

Uti1 ..... IconMaker
Uti1 ..... IconManager
Uti1 ..... ICONstructor
Uti1 ..... SicnEdit
Uti1 ..... Layout1.7
Uti1 ..... Backgrounder
Uti1 ..... ColorCursor
Uti1 ..... Controls
Uti1 ..... Drinks
Uti1 ..... DrinksMonitor
Uti1 ..... DrinksTeleport
Uti1 ..... Finder
Uti1 ..... Juggler
Uti1 ..... NutriMatic
Uti1 ..... SubetherNutriMatic
Uti1 ..... System
Uti1 ..... TeleportData
Uti1 ..... JawsIcon
Uti1 ..... ResMENU
Uti1 ..... ResEdit1.sit
Uti1 ..... AutoBlack
Uti1 ..... MacsBug
Uti1 ..... ApplicationMenu
Uti1 ..... AutoIdle
Uti1 ..... BigZoomIdle
Uti1 ..... PanicButton
Uti1 ..... SleepA
Uti1 ..... SleepB
Uti1 ..... Stars1.8
Uti1 ..... WayStation
Uti2 ..... BiorhythmII
Uti2 ..... Cat•Mac™
Uti2 ..... CreationDateFixer
Uti2 ..... CuriousCatV1
Uti2 ..... Filescan
Uti2 ..... Scandisk1
Uti2 ..... Verify
Uti2 ..... DiskLibrarianv1.82a
Uti2 ..... DiskTimerII
Uti2 ..... HoursofDaylight
Uti2 ..... MacProtect
Uti2 ..... MacSnoop™.Dem
Uti2 ..... MenuEdit
Uti2 ..... Pickproof
Uti2 ..... QwikDir
Uti2 ..... RamStart1
Uti2 ..... Remove*J-Clock
Uti2 ..... Smallview1
Uti2 ..... TinyFinder
Uti2 ..... Weight&Balance
Uti2 ..... WindowRemover
Uti3 ..... Beginner'sGuideto4/5
Uti3 ..... Flipper
Uti3 ..... HDMiniIcon
Uti3 ..... IconExtractorv1
Uti3 ..... IndexMaker2
Uti3 ..... Macps.startup
Uti3 ..... MacPSDem
Uti3 ..... MazeofGorf
Uti3 ..... Servant.953
Uti3 ..... RunSuperFinder
Uti3 ..... SuperFinder
Uti3 ..... TheHitcher
Uti3 ..... TypingHelper
Uti3 ..... WordsFile
Uti4 ..... MacRepair
Uti4 ..... DiskFixer1.9
Uti4 ..... Fedittricks
Uti4 ..... FileFixer0.5
Uti4 ..... FixItAll
Uti4 ..... FixMacWrite
Uti4 ..... MacsbugMW
Uti4 ..... MountanyHardDisk
Uti4 ..... MWtoTex
Uti4 ..... MWRecover
Uti4 ..... Rescue
Uti4 ..... SadMacCodes
Uti4 ..... ATalk
Uti4 ..... AppleJam
Uti4 ..... ClockSynch
Uti4 ..... LaserLister
Uti4 ..... NetCheck2
Uti4 ..... NodeCheck3B1
Uti4 ..... Peek(V1)
Uti4 ..... Poke(v2)
Uti4 ..... PokePackets
Uti4 ..... TheNamer
Uti4 ..... CassetteLabeler1b1
Uti4 ..... RamDisk+28
Uti5 ..... AutoDelete
Uti5 ..... CatMaker
Uti5 ..... SampleLayout
Uti5 ..... DiskTimerII
Uti5 ..... SCSIEvaluator10
Uti5 ..... SCSITest
Uti5 ..... SpeedCheck
Uti5 ..... HDRunner
Uti5 ..... MacAutoI
Uti5 ..... dumpdates
Uti5 ..... MacDumpV2
Uti5 ..... MessageMakerv.1
Uti5 ..... MyBackUp
Uti5 ..... Peeker
Uti5 ..... PICTHelp
Uti5 ..... PictAll1a
Uti5 ..... SetBackPat
Uti5 ..... ShowSizes
Uti5 ..... Xerisk
Uti6 ..... ChooseCDEV™
Uti6 ..... ApFon
Uti6 ..... DemQuicKeys™
Uti6 ..... FolderShare™
Uti6 ..... Front&Center
Uti6 ..... SCSIParker#2
Uti6 ..... SetNode
Uti6 ..... Who'sWho
Uti6 ..... DvorakStartup
Uti6 ..... ElectricDvorak
Uti6 ..... QWERTYStartup
Uti6 ..... BigMenu™
Uti6 ..... EarthIdle
Uti6 ..... Elapse
Uti6 ..... M/FRating
Uti6 ..... Memdoggie
Uti6 ..... MultiLaunch
Uti6 ..... MultiSet
Uti6 ..... GLA1.5
Uti6 ..... Waiting
Uti6 ..... FinderSubstitute
Uti6 ..... LaunchOasis
Uti6 ..... Oasis
Uti6 ..... ResTools21
Uti6 ..... Sample.r
Uti6 ..... ScreenDumpPatches
Uti6 ..... Scribe™
Uti6 ..... SwapParamRAM
Uti6 ..... TattleTale
Uti6 ..... zapPRAM
Uti6 ..... Zoomation!
Uti7 ..... AppleNote5
Uti7 ..... AppleNote1
Uti7 ..... AppleNotes3
Uti7 ..... AppleNotes4
Uti7 ..... AppleNotes6
Uti7 ..... AppleNotes2
Uti7 ..... KeyboardShortcuts
Uti7 ..... F1F4vDem1
Uti7 ..... LabelManager
Uti7 ..... SampleLabels
Uti7 ..... LaserLAB
Uti7 ..... MacPlusSIMMs(.54MB)
Uti7 ..... MacSESIMMs(.54MB)
Uti7 ..... MacIISIMMs
Uti7 ..... TN176InstallingSimms'
Uti7 ..... CommentEditor11
Uti7 ..... SSSwitcher©
Uti7 ..... FinderSubstitute
Uti7 ..... ResPeekDADemo
Uti7 ..... Loader
Uti7 ..... Shooter
Uti8 ..... AntiViral1
Uti8 ..... AntiVirus
Uti8 ..... Fever
Uti8 ..... AntiPan1
Uti8 ..... AntiVirus1E
Uti8 ..... Disinfectant1
Uti8 ..... Ferret1
Uti8 ..... Interferon3
Uti8 ..... KillScoresUs
Uti8 ..... VirusRx1a2
Uti8 ..... ScoresArticle(Write)
Uti8 ..... VirusEncyclopedia.sit
Uti8 ..... Vaccine
Uti8 ..... VirusWarning
Uti8 ..... RLISTemplate
Uti8 ..... RWatcher
Uti8 ..... RWatcher.a
Uti8 ..... Warning
Uti8 ..... VirusDetective™
Uti9 ..... +ROMdifferences
Uti9 ..... WorkstoWorks
Uti9 ..... Battery.Zap
Uti9 ..... DirActary11
Uti9 ..... Launch
Uti9 ..... LockHD
Uti9 ..... MacCompress
Uti9 ..... MacPassword™Dem
Uti9 ..... MacProtect
Uti9 ..... Password2
Uti9 ..... LogList
Uti9 ..... Pickproof
Uti9 ..... Renumberdisks
Uti9 ..... SCSIAccelerator1[INIT]
Uti9 ..... SF&Iresources
Uti9 ..... TheAtariconnection
Uti9 ..... SF&I
Uti9 ..... SF&I(OMTI3127/TL226)
Uti9 ..... SF&I(OMTI3127/TL240)
Uti9 ..... SF&ITMPL's
Uti9 ..... VanillaResources
Uti9 ..... ShredderStuff
Uti9 ..... SysEnvirinmentRecord
Uti9 ..... WindowRemover
Uti9 ..... DRMAC#1
Uti9 ..... DRMAC'sFinderLAYO&Fon
Uti9 ..... DRMAC'sMacWriteICN#'s
Uti9 ..... DRMAC'sMoverICN#'s
Uti9 ..... Enigma1
Uti9 ..... FileZero
Uti9 ..... FileSplit1
Uti9 ..... FinderClick1b
Uti9 ..... GhostApp
Uti9 ..... MidiBox.Paint
Uti9 ..... Prorammer'sKey1
Uti9 ..... Resistors
Uti9 ..... 512KEXPRAMINIT
Uti10 ..... DeskImation™
Uti10 ..... DiskImageFiler
Uti10 ..... FileScan
Uti10 ..... FileTypeLister
Uti10 ..... HardDiskCopyDelays
Uti10 ..... AffiniFileMENU
Uti10 ..... ApFon
Uti10 ..... BroadCast
Uti10 ..... CursorWrap
Uti10 ..... Earth
Uti10 ..... InitManager
Uti10 ..... keyAhead
Uti10 ..... Logger
Uti10 ..... MorseCDEV
Uti10 ..... MorseFKEY
Uti10 ..... MorseXCMD
Uti10 ..... PanelEdit1
Uti10 ..... ProPoint
Uti10 ..... Temperament
Uti10 ..... Windows
Uti10 ..... InvisiFile1
Uti10 ..... MacCompress
Uti10 ..... microLaunch
Uti10 ..... MountEm.FKey
Uti10 ..... Monitor
Uti10 ..... Tears
Uti10 ..... Tears(MACII)
Uti10 ..... Zippy
Uti10 ..... ResCount
Uti10 ..... Serializer
Uti10 ..... Sys6BootBlocks
Uti10 ..... SysEnvirons
Uti10 ..... XpresswayFile
Uti10 ..... XpresswayFKEY
Uti11 ..... Anonymity
Uti11 ..... BundAid
Uti11 ..... Arccursor
Uti11 ..... Digitalclockcursor
Uti11 ..... Fireworkscursor
Uti11 ..... Hourglasscursor
Uti11 ..... Jumpingjackcursor
Uti11 ..... Sinewavecursor
Uti11 ..... Stopwatchcursor
Uti11 ..... DiskTimerIIIB2
Uti11 ..... ClavierFrançais
Uti11 ..... Diacritics
Uti11 ..... KeyEd0.62US
Uti11 ..... StandardUSKeyBoard
Uti11 ..... MacCompress35
Uti11 ..... MenuEdit
Uti11 ..... Ogram'sDSATTMPLs
Uti11 ..... PanelEdit1

Uti11 ..... BroadCast
Uti11 ..... CrashSaverInit
Uti11 ..... CrashSaverKey
Uti11 ..... Façade
Uti11 ..... •Felix0.4
Uti11 ..... Findswell™Dem
Uti11 ..... Insure
Uti11 ..... keyAhead
Uti11 ..... Logger
Uti11 ..... MacEnvy
Uti11 ..... MapfixINIT
Uti11 ..... ReverseScreen1
Uti11 ..... TattleTale
Uti11 ..... ResCounter
Uti11 ..... SysEnvirons
Uti11 ..... ToMultiFinder2
Uti12 ..... Backup
Uti12 ..... BatFiler
Uti12 ..... SecureInit™
Uti12 ..... UNITizeDem1
Uti12 ..... UNITizePICT
Uti12 ..... UNITize™sPaint
Uti13 ..... Spy!
Uti13 ..... Aesthete
Uti13 ..... Answer
Uti13 ..... ●BBaudΩ1
Uti13 ..... BackgroundPats
Uti13 ..... BigPat
Uti13 ..... PikaPat
Uti13 ..... Blackout
Uti13 ..... Boomerang
Uti13 ..... CacheControl
Uti13 ..... CacheDoc
Uti13 ..... Date
Uti13 ..... EnchantedMenus88
Uti13 ..... FortuneCDEV
Uti13 ..... HigherMenus2
Uti13 ..... IconWrapINIT
Uti13 ..... IconWrap1
Uti13 ..... initcdev
Uti13 ..... MacEnvy
Uti13 ..... MacEnvy1∂
Uti13 ..... MeltCursorINIT
Uti13 ..... PointingDevice
Uti13 ..... ScrollLimit
Uti13 ..... SCSI
Uti14 AppleTalkConnectorSchematic
Uti14 ..... AppleTalkAltnatives
Uti14 ..... Backit
Uti14 ..... Blesser
Uti14 ..... CompareForks
Uti14 ..... FileDiffs
Uti14 ..... Portmaster
Uti14 ..... SafeEject
Uti14 ..... ScavengerRepair
Uti14 ..... SoftDisk
Uti14 ..... SystemSwitcher
Uti14 ..... TestTone
Uti14 ..... Viewer
Uti15 ..... AutoCursor
Uti15 ..... CursorEdit
Uti15 ..... FileList
Uti15 ..... IconHack
Uti15 ..... ICN#toICON
Uti15 ..... MugShut
Uti15 ..... Newbackup
Uti15 ..... FinderCursor
Uti15 ..... UFOFinderCursor
Uti15 ..... UFOSystemCusor
Uti15 ..... BlackHole
Uti15 ..... HowtoMakeIcons
Uti15 ..... SicnEdit
Uti15 ..... PhantomBackup
Uti15 ..... PurgeIcons
Uti15 ..... EzMail
Uti15 ..... EasyIcon
Uti15 ..... MultiClock
Uti15 ..... MultiRuler

HyperCard Disk Listing

by Disk Name

Bus1h ..... A-F-H-Diversions
Bus1h ..... A-F-H-Food&Lodging
Bus1h ..... Away-From-Home-USA
Bus1h ..... Calculator
Bus1h HyperAlarmHelp1.1
Bus1h HyperAlarms1.1
Bus1h ..... HyperCheck
Bus1h ..... Hyperdex
Bus1h ..... HyperPayroll
Bus1h ..... MacVendors
Bus1h Add2
Bus1h ..... OrderNotes
Bus1h OrderForm1
Bus1h ..... PersonalFinancer
Bus1h ..... PostNote
Bus1h ..... QuikReference
Bus1h ..... SharewareAccountant
Bus1h .... SpreadsheetConstructionSet
Bus2h ..... BusClassDem
Bus2h ..... TheGuide
Bus2h ..... TrekStak
Bus3h ..... Alarms
Bus3h ..... CheckRegister
Bus3h ..... CheckWriter
Bus3h ..... DBImporter
Bus3h MacUserP-86Help
Bus3h MacUserP-86UserPreferences
Bus3h MacUserP-86Home
Bus3h .... MacUserP-86AppleSacInfo.
Bus3h MacUserP-86Base
Bus3h ..... Memos
Bus3h ..... MonthAtaGlance
Bus3h ..... HyperMergeExample
Bus3h ..... MergeText
Bus3h ..... MSAddressMerge
Bus3h ..... SharewarePayroll
Bus3h ..... DialScript
Bus3h ..... TelephoneLog
Bus3h XrefText5
Bus4h BusPhone13s
Bus4h ClientList3
Bus4h ..... Clock
Bus4h DeadLabels2.5
Bus4h Form1040
Bus4h ..... ImportExcel™1
Bus4h ..... InsuranceRecord
Bus4h ..... MemoryPhone
Bus4h ..... Month
Bus4h Summarizer1.7
Bus4h ..... TimeTravel
Bus5h ..... Checking&Savings
Bus5h ..... Clients
Bus5h ..... HyperUPS
Bus5h ..... Inventory
Bus5h ..... Budget
Bus5h ..... expensevouchers
Bus5h ..... Incomereport
Bus5h ..... IncomeVouchers
Bus5h ..... ClientInfo
Bus5h ..... Expenses
Bus5h ..... JobSummary
Bus5h ..... TimeSheet
Bus5h ..... TimeBillzIns.(TeachText)
Bus6h ..... Budget
Bus6h ..... expensevouchers
Bus6h ..... Incomereport
Bus6h ..... IncomeVouchers
Bus6h ..... MailingListMaker
Bus6h ..... MemoNoteStack
Bus6h ..... OrgannelCharts™
Bus6h ..... Directions
Bus6h ..... PhoneBook
Bus6h ..... Scheduler
Bus6h ..... SchedulerHelp
Bus6h StaffRegister2.Sit
Bus6h ..... Disbursements
Bus6h ..... MasterClientList
Bus6h ..... TimeSlips
Bus6h ..... VisualOutliner
Bus6h ..... WeekAtAGlance
Bus7h ..... CallScreening
Bus7h ..... KiwiEnvelopes!™
Bus7h ..... MemoNoteStack4.
Bus8h ..... AddressMaster
Bus8h ..... CheckRegister
Bus8h ..... ClientList
Bus8h ..... Columnizer
Bus8h ..... DeluxAddressStack
Bus8h ..... DiskLabeler
Bus8h DRiMporter0.90
Bus8h ..... E-Mail
Bus8h ..... GuidetoMacConsultants
Bus8h ..... HomeInventory
Bus8h ..... Hyperbase
Bus8h ..... Ron'sToDoStack
Bus8h ..... TODOArchives
Bus8h ..... TaxExtensions
Bus9h ..... #10(MailLables)
Bus9h ..... Client™Tutorial
Bus9h ..... E-Mail
Bus9h ..... EmployeeSelection
Bus9h ..... SelectedCards
Bus9h ..... Hyper-DEX
Bus9h ..... Hyper-QuicDEXTfr
Bus9h ..... HyperMortgage
Bus9h ImportSYLK1
Bus9h ..... Int'lTravelAssistance
Bus9h ..... InventoryStack
Bus9h ..... LetterWriter
Bus9h ..... Maitred'
Bus9h ..... Memos
Bus9h ..... PhoneMessages
Bus9h ..... Sales&Payroll
Bus9h ..... StockHELPER®V0.2.1
Bus9h ..... TimeStack

Bus9h TimeCalc3
Bus9h ..... Z-CALC
Bus10h ..... BlankCheckbook
Bus10h ..... BureaucracyTracker
Bus10h ..... PhoneMessages
Bus10h DACHSTextImport1
Bus10h ..... dbImporter
Bus10h ..... AddressButton
Bus10h ..... HyperWrite
Bus10h ..... HyperWritePrinter
Bus10h ..... ImportExcel™1.1
Bus10h ..... ImportFile™1
Bus10h ..... Import/Export
Bus10h ..... Import/ExportNote
Bus10h ..... Importer
Bus10h ..... PC-FileImporter
Bus10h ..... Phonew/DemnDialer
Bus10h ..... StripDelimXFCN
Bus10h TextImporter1.4
Bus10h THEAddressStack1.2
Bus10h Univ.TextBtns1
Bus11h ..... AccountantHelp
Bus11h ..... HomeSecurity
Bus11h ..... ManagementStorageStack
Bus11h ..... Markets
Bus11h ..... Raisins&Almonds
Bus11h ..... SoftwareDatabase™
Bus12h ..... db.$Retailer'sAdvantage
Bus12h ..... HyperCD-IRA
Bus12h JobSearch1.3
Bus12h ..... KnobDemStack
Bus12h Markets2/5
Bus12h ..... MasterStockStack
Bus12h .... QuickDex™Import-Export
Bus12h ..... Mailer
Bus12h ..... TCM.
Bus13h Clinix1
Bus13h ..... Ct.ZIPCodes
Bus13h ..... DataMgmt
Bus13h FinancialMath161
Bus13h ..... HyperScreenSaver
Bus13h ..... InvoiceHELPER®2.1
Bus13h ..... LeasingMachine
Bus13h ..... MailMgr
Bus13h ..... NT&STDem22
Bus13h ..... P&EOrganizerDem
Bus13h ..... SortItems
Dem1h ..... GenealogyExplorerDem
Dem1h ..... GenealogyExplorerHelp
Dem1h GraphicWorks1.1
Dem2h ..... ElectronicCallScreening
Dem3h ..... HyperAtlas™Dem
Dem3h ..... Louisiana-EPSF
Dem3h ..... MicroMapsSoftware,Inc.
Dem3h ..... Louisiana
Dem3h ..... SouthAmerica
Dem3h ..... USASmStates
Dem3h ..... ©1987MicroMaps
Dem3h ..... Louisiana
Dem3h ..... SouthAmerica
Dem3h ..... ©1987MicroMaps
Dem3h ..... DotMap
Dem3h ..... MapwithGraphs
Dem3h ..... NetworkMap
Dem3h ..... PointSymbolMaps
Dem3h ..... ShadedAreamap
Dem3h ..... Size&ShadingMap
Dem3h ..... HyperChef™Dem
Dem3h ..... SmartStacksDem
Edu1h ..... Addition
Edu1h ..... Ear
Edu1h ..... Neurotour
Edu1h ..... Subtraction
Edu1h ..... TeachingtoRead
Edu2h ..... AnimalYear
Edu2h California1.1
Edu2h ..... Circuits
Edu2h Flashcards/V1.2
Edu2h ..... GuessTheNumber
Edu2h ..... InformationStack
Edu2h ..... Keyboard#2
Edu2h LiftingGuide1.6
Edu2h ..... Spelltest
Edu3h ..... AnimalKingdom
Edu3h ..... FlashCardTemplate
Edu3h ..... FlashCards
Edu3h ..... Flashcards-Addition
Edu3h ..... Flashcards-Division
Edu3h ..... Flashcards-Multiplication
Edu3h ..... Flashcards-Subtraction
Edu3h ..... FortLangley
Edu3h ..... fractal.c
Edu3h fractal2.a
Edu3h fractal2.make
Edu3h ..... Fractals
Edu3h ..... MathAdventure
Edu3h ..... PlantKingdom
Edu3h ..... USMap-States&Capitals
Edu4h ..... I-Ching
Edu4h ..... Cosmology
Edu4h ..... Galaxies
Edu4h ..... History
Edu4h ..... Q&A
Edu4h ..... Stars
Edu4h ..... DrTLetOne
Edu4h ..... DrTLetOneB
Edu4h ..... ESPertise
Edu5h Russian1
Edu5h Russian2
Edu6h ..... Cosmology
Edu6h ..... Galaxies
Edu6h ..... History
Edu6h ..... Q&A
Edu6h ..... Stars
Edu6h ..... BibFormat
Edu6h ..... BibHeader
Edu6h ..... BibMerge
Edu6h ..... BibSection
Edu6h ..... XrefBibliographyProcessor
Edu6h ..... Xref™
Edu6h ..... LessonPlan
Edu6h ..... SetUpStack
Edu6h HyperBib2.1
Edu6h ..... Grades
Edu6h ..... ReportCardStack
Edu6h ..... MacinTalk
Edu6h ..... SpellingStack
Edu6h ..... TestStack
Edu7h Russian3.SIT
Edu7h Russian4.SIT
Edu7h Russian5.SIT
Edu7h ..... RussianVocabulary
Edu7h ..... UnStuffIt
Edu8h ..... Dinosaurs
Edu8h Mesopotamia0.9
Edu8h ..... ReadMoreRussian.SIT
Edu8h ..... RussianNouns.SIT
Edu8h ..... UnStuffIt
Edu9h Guitarist1
Edu9h ..... TheGuitarTutor
Edu9h ..... WalkTheDog
Edu10h .....
Edu10h..NewTestamentHyperStack©Notes
Edu10h..NewTestamentHyperStack©.sit
Edu10h ..... UnStuffIt
Edu11h ..... AstroAlmanac
Edu11h ..... Astrology
Edu11h Eliza1
Edu11h ..... LibraryMngt
Edu11h ..... Libraryscript
Edu11h ..... SlingMiniSample
Edu11h ..... StoryBoard
Edu11h ..... TarotMajorArcana
Edu12h ..... Genercard
Edu12h ..... Grades
Edu12h ..... Hangman
Edu12h ..... HyperX
Edu12h MadMathMinute2
Edu12h ..... MayanIcons
Edu12h ..... PeriodicTable
Edu12h ..... Spelling
Edu12h ..... TrigFormulas
Edu12h ..... Vocabbook
Edu13h ..... HyperAgeMediaStack.sit
Edu13h ..... MacWEEKstack.sit
Edu13h ..... Stackazine™February.sit
Edu13h ..... Stackazine™March.sit
Edu13h ..... UnStuffIt
Edu14h ..... PassingNotes.sit
Edu14h ..... USFStatStack.sit
Edu14h ..... WorldMiles.sit
Edu15h ..... AidsClock
Edu15h ..... Biorhythms
Edu15h ..... Birthday
Edu15h ..... BrainStack
Edu15h ..... GrowthRecords
Edu15h ..... Patientnames
Edu15h Nutritionv1.1
Edu15h ..... overWeight?
Edu15h ..... DetailStack
Edu15h ..... HandStack
Edu15h ..... TreatmentStack
Edu16h ..... EsperantoTeacher
Edu16h GuitarChording1d
Edu16h ..... GuitarFont∂.mwt
Edu16h ..... HyperResearch
Edu16h PacketMacsv1.22
Edu16h ..... Tunes
Edu17h..OldTestamentHyperStack©Notes
Edu17h ..... OldTestamentStack
Edu18.1h Atlas1.1
Edu18.1h ..... Birthday
Edu18.1h ..... ConstitutionofUS.sit
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Hard Disk Survey

BMUG is conducting a survey of hard disks used by our members. The results, to be published in a future *Newsletter*, should be illuminating to those of you who use hard disks – and to those planning to use them in the future. Your opinions count, so please take part. If you own more than one hard disk, please copy and submit a survey form for each drive. Thanks for participating, if you have any questions, contact: **Gary Raddatz** c/o the BMUG office — this is his idea!

Make & model of computer:.....

Manufacturer & Model nameof hard disk:.....

Size (Mb):.....Internal:.....External:.....Removable:.....

How long owned? Less than 6 Months....6 Months.....Year.....Longer.....

List price?..... Price you paid?.....

For which applications do you use the drive?

(Please break down into percentages to total 100%)

Accounting/Spreadsheets	.....%
Database	.....%
Desktop publishing	.....%
Games	.....%
Programming	.....%
Word processing	.....%
Other(specify)	.....%
	100%

How much do you use the disk?

1-4 hours perday.....
4-8 hours per day.....
More than 8 hours per day.....

On a scale of 1 to 10 (10 the highest), please rate the following:

Instructions:.....
Performance:.....
Product support:..... (if required)

Do you feel that you now need a larger disk for more storage?.....

Do you use your disk for any specialized applications (such as data acquisition)?.....

Give.details:.....

.....

On a scale of 1 to 10, how well does it perform that job?.....

Would you buy this brand again?.....

Do you back up your drive?.....How often?.....

Method used? Floppy?.....Hard drive?.....Tape?.....Other?.....

Additional comments?.....

.....

.....

Please return survey form to :
(Deadline April 13, 1990)

BMUG Hard Disk Survey
1442A Walnut St. #62
Berkeley, CA 94709

Results will be published in a future issue of the BMUG Newsletter

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Descriptions of all the software (excluding *HyperCard* stacks) in our library

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❑ Fall '85 Newsletter ..... $15 ✎ _____

Video Tape Library *$15.00 each*

❑ VT #1 - Apple Commercials
❑ VT #3 - HyperCard (Bill Atkinson)
❑ VT #4 - Apple 1997
❑ VT #5 - HyperCard 1.2.1 new features ✎ _____

Software Library

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❑ **BMUG's PD ROM,** *our library on CD-ROM* ..... *$100.00* ✎ _____

❑ Apple's Official System/Finder (800k only, 4-disks) ..... *$9.00* ✎ _____

❑ Apple's Official HyperCard Update (800k only, 2-disks) .. *$8.00* ✎ _____

❑ Adobe's NFNT Screen Fonts (800k, 16-disks) ..... *$60.00* ✎ _____

❑ Adobe's NFNT Screen Fonts (1.44 Meg., 6-disks) ..... *$35.00* ✎ _____

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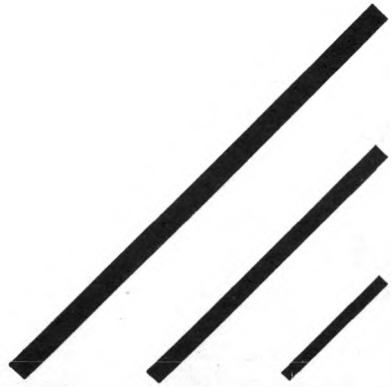

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